03-030

CONTRACT DATA REQUIREMENTS LIST
(1 Data Item)

Form Approved
OMB No. 0704-0188

A. CONTRACT LINE ITEM NO.	B. EXHIBIT A	C: CATEGORY: TESTING AND INSPECTION TDP_____ TM_____ OTHER_____
D. SYSTEM/ITEM PISTON LANDING GEAR	E. CONTRACT/PR NO. FD2020-03-23065	F. CONTRACTOR

1. DATA ITEM NO.	2. TITLE OF DATA ITEM	3. SUBTITLE	17. PRICE GROUP
A001	TEST/INSPECTION REPORTS	GOVERNMENT TESTING	

4. AUTHORITY (Data Acquisition Document No.)	5. CONTRACT REFERENCE	6. REQUIRING OFFICE	18. ESTIMATED TOTAL PRICE
DI-NDTI-80809B/T		OO-ALC/MADLV	

7. DD 250 REQ	9. DIST STATEMENT REQUIRED	10. FREQUENCY	12. DATE OF FIRST SUBMISSION	14. DISTRIBUTION
DD	D	OTIME	BLK 16	
8. APP CODE		11. AS OF DATE	13. DATE OF SUBSEQUENT SUBM.	
N/A		N/A	N/A	

16. REMARKS

(4) Contractor format acceptable. Paragraph 10.2 of DD Form 1664 is clarified as follows:

All dimensions and tolerances specified on the manufacturing data shall be listed in one column with the actual corresponding reading obtained from inspection of the part, listed in another column.

Materials utilized in the manufacture of "First Article" item shall be identified and certified along with a copy of material purchase requests as conforming to applicable data requirements.

Material processes including finish requirements (plating, heat treatment welding inspections, anodize, painting, etc.) utilized in the manufacture of the first article will be identified and certified as conforming to the applicable requirements. A copy of the purchase order certifying the processes accomplished at other than contractor facility shall be included.

Other requirements as called out on Engineering Data Requirement (AFLC Form 3720).

(9) DISTRIBUTION STATEMENT D: Distribution authorized to the Department of Defense and DOD contractors only (Critical Technology)(15 Sept 95). Other requests for this document shall be referred to OO-ALC/LGHS.

(12) Submit concurrently with First Article.

FOB DESTINATION

a. ADDRESSEE	b. COPIES draft	final reg	final repr
OO-ALC/MADLV		1	
7278 4TH STREET			
BLDG 100, BAY D			
HILL AFB UT			
84056-5205			
15. TOTAL -------->	0	1	0

G. PREPARED BY	H. DATE	I. APPROVED BY	J. DATE
Ray Brown LGOO Data Mgr.	26 JUNE 03	Bryan Smith LGOO Branch Ch	26 JUNE 03

INSTRUCTIONS FOR COMPLETING DD FORM 1423

(See DoD 5010.12M for detailed instructions.)

FOR GOVERNMENT PERSONNEL

Item A. Self-explainatory.

Item B. Self-explainatory.

Item C. Mark (X) appropriate category: TDP - Technical Data Package; TM - Technical Manual; Other - other category of data, such as 'Provisioning', 'Configuration Management', etc.

Item D. Enter name of system/item being acquired that data will

Item E. Self-explainatory (to be filled in after contract award).

Item F. Self-explainatory (to be filled in after contract award).

Item G. Signature of preparer.

Item H. Date CDRL was prepared.

Item I. Signature of CDRL approval authority.

Item J. Date CDRL was approved.

Item 1. See DoD FAR Supplement Subpart 4.71 for proper numbering.

Item 2. Enter title as it appears on data acquisition document cited in Item 4.

Item 3. Enter subtitle of data item for futher definition of data item (optional entry).

Item 4. Enter Data Item Description (DID) number, military specification number, or military standard number listed in DoD 5010.12-L (AMSDL), or one-time DID number, that defines data content and format requirements.

Item 5. Enter reference to tasking in contract that generates requirement for the data item (e.g. Statement of Work paragraph number).

Item 6. Enter technical office responsible for ensuring adequacy of the data item.

Item 7. Specify requirement for inspection/acceptance of the data item by the Government.

Item 8. Specify requirement for approval of a draft before preparation of the final data item.

Item 9. For technical data, specify requirement for contractor to mark the appropriate distribution statement on the data (ref DoDD 5230.24).

Item 10. Specify number of times data items are to be delivered.

Item 11. Specify as-of date of data item, when applicable.

Item 12. Specify when first submittal is required.

Item 13. Specify when subsequent submittals are required, when applicable.

Item 14. Enter addresses and number of draft/final copies to be delivered to each addressee. Explain reproducible copies in Item 16.

Item 15. Enter total number of draft/final copies to be delivered.

Item 16. Use for additional/clarifying information for items 1 through 15. Examples are: Tailoring of documents cited in Item 4; Clarification of submittal dates in Items 12 and 13; Explanation of reproducible copies in Item 14; Desired medium for delivery of the data item.

FOR THE CONTRACTOR

Item 17. Specify appropriate price group from one of the following groups of effort in developing estimated prices for each data item listed on the DD Form 1423.

a. Group I. Definition - Data which is not otherwise essential to the contractor's performance of the primary contracted effort (production, development, testing and administration) but which is required by DD Form 1423.

Estimated Price - Costs to be included under Group I are those applicable to preparing and assembling the data item in conformance with Government requirements, and the administration and other expenses related to reproducing and delivering such data items to the Government.

b. Group II. Definition - Data which is essential to the performance of the primary contracted effort but the contractor is required to perform additional work to conform to Government requirements with regard to depth of content, format, frequency of submittal, preparation, control, or quality of the data item.

Estimated Price - Costs to be included under Group II are those incurred over and above the cost of the essential data item without conforming to Government requirements, and the administrative and other expenses related to reproducing and delivering such data item to the Government.

c. Group III. Definition - Data which the contrator must develop for his internal use in performance of the primary contracted effort and does not require any substantial change to conform to Government requirements with regard to depth of content, format, frequency of submittal, preparation, control, and quality of the data item.

Estimated Price - Costs to be included under Group III are the administrative and other expenses related to reproducing and delivering such data item to the Government.

d. Group IV. Definition - Data which is developed by the contractor as part of his normal operating procedures and his effort in supplying these data to the Government is minimal.

Estimated Price - Group IV items should normally be shown on the DD Form 1423 at no cost.

Item 18. For each data item, enter an amount equal to that portion of the total price which is estimated to be attributable to the production or development for the Government of that item of data. These estimated data prices shall be developed only from those costs which will be incurred as a direct result of the requirement to supply data, over and above those costs which would otherwise be incurred in performance of the contract if no data were required. The estimated data prices shall not include any amount for rights in data. The Government's right to use data shall be governed by the pertinent provisions of the contract.

PACKAGING REQUIREMENTS

PR, MIPR, OR DOCUMENT NUMBER: FD2070-03-23065

1. PACKAGING REQUIREMENTS: Block 1 shall always be completed and further defined in Blocks 2, 3, or 4. The term "Item ID" refers to line item number, item name, NSN/MMAC, part number, or any other way of identifying a particular item. MIL-STD-2073-1 represents Military Preservation (PRES) and Packing (PACK). Military packing consists of levels A, B, and Minimum (M). ASTM D3951 could be substituted by another document if specified in Block 2. Quantity Per Unit Pack (QUP) and Commercial Best Practice (CBP) are abbreviated. The reverse side of this form has the European Union environmental requirements.

ITEM ID	QUP (#)	MIL-STD-2073-1 PRES (X)	MIL-STD-2073-1 PACK (A/B/M)	COMMERCIAL ATSM D3951 PRES (X)	COMMERCIAL ATSM D3951 PACK (X)	CBP (X)	SPECIAL PACKAGING INSTRUCTION NUMBER
1620011670942 (0001)	001	X	B				Fo11670942 88252
1620007718827 (0003)	001	X	B				F0077/8827 84033
1620013153296 (0004)	001	X	B				F007838023 80296
1620007718830 (0005)	001	X	B				F0077/8827 84033

2. ADDITIONAL PACKAGING AND CONTAINER MARKING REQUIREMENTS *(Specify all revisions and dates of required specifications, standards, and data item descriptions (DIDs))*

3. INSTRUCTIONS TO CONTRACTING OFFICER: Insert appropriate clause(s) into Section D for applicable item(s) as indicated below.

- AFMCFARS 5352.247-9005, SHIPPING CONTAINER MARKING. ITEM NAME(s)OR NSN/MMAC
- AFMCFARS 5352.247-9006, MARKING OF WARRANTED ITEMS. ITEM NAME(s) OR NSN/MMAC
- AFMCFARS 5352.247-9007, SPECIFICATION COMMERCIAL PACKAGING (ASTM D3951). ITEM NAME(s) OR NSN/MMAC
- AFMCFARS 5352.247-9008, CONTRACTOR COMMERCIAL PACKAGING *(Commercial Best Practice)*. ITEM NAME(s) OR NSN/MMAC
- [X] AFMCFARS 5352.247-9009, MILITARY PACKAGING AND MARKING. ITEM NAME(s) OR NSN/MMAC
- AFMCFARS 5352.247-9010, ENGINEERED OR SPECIALIZED CONTAINERS (CDRS). ITEM NAME(s) OR NSN/MMAC
- AFMCFARS 5352.247-9011, PACKAGING AND MARKING OF HAZARDOUS MATERIAL. ITEM NAME(s) OR NSN/MMAC
- AFMCFARS 5352.247-9012, PACKAGING FOR INSPECTION AND ACCEPTANCE AT DESTINATION. ITEM NAME(s) OR NSN/MMAC
- AFMCFARS 5352.247-9013, PACKAGING DATA *(Coded and/or Special Packaging Instructions)*. ITEM NAME(s) OR NSN/MMAC

4. CODED DATA: Coded requirements shall be interpreted in accordance with MIL-STD-2073-1.

ITEM	QUANTITY QUP	QUANTITY ICQ	PRES METH	C D	PRES MTL	WRAP MTL	CUSH DUNN	C T	UNIT CONT	INT CONT	U C L	SPEC MKG	UNIT PACK WEIGHT	UNIT PACK SIZE LENGTH	UNIT PACK SIZE WIDTH	UNIT PACK SIZE DEPTH	UNIT PACK CUBE WHOLE CUBE	UNIT PACK CUBE 1000TH	O P I

ORGANIZATION: LGMP

PACKAGING SPECIALIST *(Typed Name/Signature)*: Kim M. Olson

DATE: 03/July/07

AFMC FORM 158, 20020102 *(EF-V1)*

PREVIOUS EDITION IS OBSOLETE

SEE REVERSE SIDE

PACKAGING REQUIREMENTS

PR, MIPR, OR DOCUMENT NUMBER: FD2070-03-23065

1. PACKAGING REQUIREMENTS: Block 1 shall always be completed and further defined in Blocks 2, 3, or 4. The term "Item ID" refers to line item number, item name, NSN/MMAC, part number, or any other way of identifying a particular item. MIL-STD-2073-1 represents Military Preservation (PRES) and Packing (PACK). Military packing consists of levels A, B, and Minimum (M). ASTM D3951 could be substituted by another document if specified in Block 2. Quantity Per Unit Pack (QUP) and Commercial Best Practice (CBP) are abbreviated. The reverse side of this form has the European Union environmental requirements.

ITEM ID	QUP	MIL-STD-2073-1 PRES	MIL-STD-2073-1 PACK	COMMERCIAL ATSM D3951 PRES	COMMERCIAL ATSM D3951 PACK	CBP	SPECIAL PACKAGING INSTRUCTION NUMBER
	(#)	(X)	(A/B/M)	(X)	(X)	(X)	
1620008624057 (0007)	001	X	B				F013047618 98036
1620012703196 (0008)	001	X	B				F008628285 73129
1620004463776 (0010)	001	X	B				F004463776 91112
1620004094739 (0011)	001	X	B				F004094739 80260

2. ADDITIONAL PACKAGING AND CONTAINER MARKING REQUIREMENTS *(Specify all revisions and dates of required specifications, standards, and data item descriptions (DIDs))*

3. INSTRUCTIONS TO CONTRACTING OFFICER: Insert appropriate clause(s) into Section D for applicable item(s) as indicated below.

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- AFMCFARS 5352.247-9012, PACKAGING FOR INSPECTION AND ACCEPTANCE AT DESTINATION. ITEM NAME(s) OR NSN/MMAC _____
- AFMCFARS 5352.247-9013, PACKAGING DATA *(Coded and/or Special Packaging Instructions)*. ITEM NAME(s) OR NSN/MMAC _____

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ITEM	QUANTITY QUP	QUANTITY ICQ	PRES METH	C D	PRES MTL	WRAP MTL	CUSH DUNN	C T	UNIT CONT	INT CONT	U C L	SPEC MKG	UNIT PACK WEIGHT	UNIT PACK SIZE LENGTH	UNIT PACK SIZE WIDTH	UNIT PACK SIZE DEPTH	UNIT PACK CUBE WHOLE CUBE	UNIT PACK CUBE 1000TH	O P I

ORGANIZATION: LGMP

PACKAGING SPECIALIST *(Typed Name/Signature)*: Linda Olson

DATE: 03/JULY/07

AFMC FORM 158, 20020102 *(EF-V1)* PREVIOUS EDITION IS OBSOLETE

SEE REVERSE SIDE

PACKAGING REQUIREMENTS

PR, MIPR, OR DOCUMENT NUMBER: FD2020-03-23065

1. PACKAGING REQUIREMENTS: Block 1 shall always be completed and further defined in Blocks 2, 3, or 4. The term "Item ID" refers to line item number, item name, NSN/MMAC, part number, or any other way of identifying a particular item. MIL-STD-2073-1 represents Military Preservation (PRES) and Packing (PACK). Military packing consists of levels A, B, and Minimum (M). ASTM D3951 could be substituted by another document if specified in Block 2. Quantity Per Unit Pack (QUP) and Commercial Best Practice (CBP) are abbreviated. The reverse side of this form has the European Union environmental requirements.

ITEM ID	QUP (#)	MIL-STD-2073-1 PRES (X)	MIL-STD-2073-1 PACK (A/B/M)	COMMERCIAL ASTM D3951 PRES (X)	COMMERCIAL ASTM D3951 PACK (X)	CBP (X)	SPECIAL PACKAGING INSTRUCTION NUMBER
1620010232138 (0013)	001	X	B				F010232138 84081
1620014451436 (0014)	001	X	B				F012352271 03105
1620014450092	001	X	B				F012352273 03120
1620011627396 (0017)	001	X	B				

2. ADDITIONAL PACKAGING AND CONTAINER MARKING REQUIREMENTS *(Specify all revisions and dates of required specifications, standards, and data item descriptions (DIDs))*

3. INSTRUCTIONS TO CONTRACTING OFFICER: Insert appropriate clause(s) into Section D for applicable item(s) as indicated below.

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													10	10	10	10			
1620011627396 (0017)	001	000	1	0	1	0	0	0	0	B	G	H	E	D	0	0	B	0	0	0	0	1	5	5	0	2	6	5	0	1	6	5	0	0	7	8	0	0	0	1	9	7	3	0

ORGANIZATION: LGMP

PACKAGING SPECIALIST *(Typed Name/Signature)*: Kim W. Olson

DATE: 03/JULY/07

AFMC FORM 158, 20030408 *(EF-V1)* PREVIOUS EDITION IS OBSOLETE

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PACKAGING REQUIREMENTS

PR, MIPR, OR DOCUMENT NUMBER: FD2020-03-23065

1. PACKAGING REQUIREMENTS: Block 1 shall always be completed and further defined in Blocks 2, 3, or 4. The term "Item ID" refers to line item number, item name, NSN/MMAC, part number, or any other way of identifying a particular item. MIL-STD-2073-1 represents Military Preservation (PRES) and Packing (PACK). Military packing consists of levels A, B, and Minimum (M). ASTM D3951 could be substituted by another document if specified in Block 2. Quantity Per Unit Pack (QUP) and Commercial Best Practice (CBP) are abbreviated. The reverse side of this form has the European Union environmental requirements.

ITEM ID	QUP (#)	MIL-STD-2073-1 PRES (X)	MIL-STD-2073-1 PACK (A/B/M)	COMMERCIAL ASTM D3951 PRES (X)	COMMERCIAL ASTM D3951 PACK (X)	CBP (X)	SPECIAL PACKAGING INSTRUCTION NUMBER
1620012524042 (0018)	001	X	B				F01252404201320
1620012524041 (0019)	001	X	B				

2. ADDITIONAL PACKAGING AND CONTAINER MARKING REQUIREMENTS *(Specify all revisions and dates of required specifications, standards, and data item descriptions (DIDs))*

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- AFMCFARS 5352.247-9013, PACKAGING DATA *(Coded and/or Special Packaging Instructions)*. ITEM NAME(s) OR NSN/MMAC

4. CODED DATA: Coded requirements shall be interpreted in accordance with MIL-STD-2073-1.

ITEM	QUANTITY QUP	QUANTITY ICQ	PRES METH	C D	PRES MTL	WRAP MTL	CUSH DUNN	C T	UNIT CONT	INT CONT	U C L	SPEC MKG	UNIT PACK WEIGHT 10	UNIT PACK SIZE LENGTH 10	UNIT PACK SIZE WIDTH 10	UNIT PACK SIZE DEPTH 10	UNIT PACK CUBE WHOLE CUBE	UNIT PACK CUBE 1000TH	O P I
1620012524041 (0019)	001	000202	10	2	XX	X	X	X	N	V	00	B00	00053	00360	00260	00190	00010	29	M

ORGANIZATION: LGMP

PACKAGING SPECIALIST *(Typed Name/Signature)*: Kim D Olson

DATE: 03/JUL/07

AFMC FORM 158, 20030408 *(EF-V1)* PREVIOUS EDITION IS OBSOLETE

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PACKAGING REQUIREMENTS

PR, MIPR, OR DOCUMENT NUMBER ~~FD2020-03-23066~~ FD2020-03-23065

1. PACKAGING REQUIREMENTS: Block 1 shall always be completed and further defined in Blocks 2, 3, or 4. The term "Item ID" refers to line item number, item name, NSN/MMAC, part number, or any other way of identifying a particular item. MIL-STD-2073-1 represents Military Preservation (PRES) and Packing (PACK). Military packing consists of levels A, B, and Minimum (M). ASTM D3951 could be substituted by another document if specified in Block 2. Quantity Per Unit Pack (QUP) and Commercial Best Practice (CBP) are abbreviated. The reverse side of this form has the European Union environmental requirements.

ITEM ID	QUP (#)	MIL-STD-2073-1 PRES (X)	MIL-STD-2073-1 PACK (A/B/M)	COMMERCIAL ASTM D3951 PRES (X)	COMMERCIAL ASTM D3951 PACK (X)	CBP (X)	SPECIAL PACKAGING INSTRUCTION NUMBER
~~1620012523344~~ 0015	001	X	B				~~F01523344 R109~~
1620012524035 0016	001	X	B				
~~1620014420167~~ 0017	001	X	B				~~F01207131 87368~~

2. ADDITIONAL PACKAGING AND CONTAINER MARKING REQUIREMENTS *(Specify all revisions and dates of required specifications, standards, and data item descriptions (DIDs))*

3. INSTRUCTIONS TO CONTRACTING OFFICER: Insert appropriate clause(s) into Section D for applicable item(s) as indicated below.

- [X] AFMCFARS 5352.247-9005, SHIPPING CONTAINER MARKING. ITEM NAME(s)OR NSN/MMAC
- [ ] AFMCFARS 5352.247-9006, MARKING OF WARRANTED ITEMS. ITEM NAME(s) OR NSN/MMAC
- [ ] AFMCFARS 5352.247-9007, SPECIFICATION COMMERCIAL PACKAGING (ASTM D3951). ITEM NAME(s) OR NSN/MMAC
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- [ ] AFMCFARS 5352.247-9011, PACKAGING AND MARKING OF HAZARDOUS MATERIAL. ITEM NAME(s) OR NSN/MMAC
- [ ] AFMCFARS 5352.247-9013, PACKAGING DATA *(Coded and/or Special Packaging Instructions)*. ITEM NAME(s) OR NSN/MMAC

4. CODED DATA: Coded requirements shall be interpreted in accordance with MIL-STD-2073-1.

ITEM	QUANTITY QUP	QUANTITY ICQ	PRES METH	CD	PRES MTL	WRAP MTL	CUSH DUNN	CT	UNIT CONT	INT CON	UCL	SPEC MKG	UNIT PACK WEIGHT	UNIT PACK SIZE LENGTH	UNIT PACK SIZE WIDTH	UNIT PACK SIZE DEPTH	UNIT PACK CUBE WHOLE CUBE	UNIT PACK CUBE 1000TH	OPI
1620012524035	001	000	10	1	00	XXXX	X	N	RO	OB	00	00	0130	0135	0125	0185	00816	72	M

ORGANIZATION: LGMPD

PACKAGING SPECIALIST *(Typed Name/Signature)*: Mike Stephens

DATE: 2003/7/8

AFMC FORM 158, 20030408 *(EF-V1)* PREVIOUS EDITION IS OBSOLETE

SEE REVERSE SIDE

TPO-01-167-0942

PRESERVATION AND PACKAGING DATA

LEVEL A/C

PRESERVE IN ACCORDANCE WITH MIL-P-116

METHOD: I

LEVEL: A, B, C

CLEANING AND DRYING IN ACCORDANCE WITH MIL-P-116
C-1, D-1

PRESERVATION COMPOUNDS
P-19 ON BUSHINGS MIL-C-16173, GRADE 4

CUSHION AND / OR DUNNAGE
SEE PARTS LIST

EXTERIOR CONTAINER

	LEVEL B AND C	LEVEL A
SPECIFICATION:	PPP-B-601	
STYLE:	A	A
TYPE:	DOMESTIC	OVERSEAS
CLASS:	1	1
GRADE:	B	A

SIZE:

INSIDE DIMENSION: 70½ x 20⅜ x 14½

OUTSIDE DIMENSION: 72⅝ x 22⅜ x 19⅛

CUBE 18.39 CUBIC FEET

GROSS WEIGHT: 525.67 LBS.

MARKING SHALL BE IN ACCORDANCE WITH MIL-STD-129
APPLICABLE MARKING: SEE GENERAL NOTES 16, 17, 18 & 19

ALTERNATE PACKAGING - FOAM IN PLACE
☐ APPLICABLE ☒ NOT APPLICABLE

GENERAL NOTES (UNLESS OTHERWISE SPECIFIED)

1. DIMENSIONAL TOLERANCES TO BE ± 1/8 INCH.
2. BOND PADS WITH -047.
3. ASSEMBLE -011 BLOCKING ASSEMBLY WITH ONE -005 ¾ INCH PLYWOOD PANEL AND TWO -035 RUBBER PADS AS SHOWN ON FACE OF DRAWING.
4. ASSEMBLE -021 BLOCKING ASSEMBLY WITH FOUR -007 ¾ INCH PLYWOOD PANELS AND ONE -023 PAD AS SHOWN ON FACE OF DRAWING.
5. ASSEMBLE -031 BLOCKING ASSEMBLY WITH SIX -013 ¾ INCH PLYWOOD PANELS, FOUR -027 RUBBER PADS AND TWO -029 RUBBER PADS AS SHOWN ON FACE OF DRAWING.
6. ASSEMBLE -041 BLOCKING ASSEMBLY WITH SIX -015 ¾ PLYWOOD PANELS, FOUR -033 RUBBER PADS AND TWO -029 RUBBER PADS AS SHOWN ON FACE OF DRAWING.
7. ASSEMBLE -051 BLOCKING ASSEMBLY WITH FOUR -009 ¾ INCH PLYWOOD PANELS AND ONE -025 RUBBER PAD AS SHOWN ON FACE OF DRAWING.
8. BOND -037 PAD TO END PANEL, AS SHOWN ON FACE OF DRAWING.
9. SECURE -011 BLOCKING ASSEMBLY TO END PANEL AS SHOWN ON FACE OF DRAWING.
10. LOCATE AND SECURE -051 BLOCKING ASSEMBLIES IN CONTAINER WITH TWO -017 AND FOUR -019 WOOD BLOCKINGS AS SHOWN ON FACE OF DRAWING.
11. LOCATE AND SECURE -021 BLOCKING ASSEMBLIES IN CONTAINER WITH TWO -017 AND FOUR -019 WOOD BLOCKINGS AS SHOWN ON FACE OF DRAWING.
12. LOCATE AND SECURE -031 AND -041 CRADLE ASSEMBLIES IN CONTAINER WITH ONE -017 AND TWO -019 WOOD BLOCKINGS AS SHOWN ON FACE OF DRAWING.
13. WRAP PART WITH -039 WRAPPING PAPER AND SECURE WITH -043 TAPE AS SHOWN ON FACE OF DRAWING.
14. TPO NUMBER TPO-01-167-0942 WILL ACCOMMODATE PART NUMBER 188184, NATIONAL STOCK NUMBER 1620-01-167-0942.
15. PLYWOOD AND LUMBER CALL OUTS ARE ACTUAL DIMENSIONS.
16. MATCH MARK -021 ASSEMBLY AS SHOWN ON FACE OF DRAWING.
17. MATCH MARK -051 ASSEMBLY AS SHOWN ON FACE OF DRAWING.
18. STENCIL ON BOTH SIDES IN ONE INCH HIGH BLACK CHARACTERS TPO NUMBER "TPO-01-167-0942".
19. STENCIL IN ONE INCH HIGH BLACK CHARACTERS TPO NUMBER "TPO-01-167-0942".

ZONE	LTR	REVISIONS DESCRIPTION	DATE	APPROVED

QTY REQD -051	QTY REQD -041	QTY REQD -031	QTY REQD -021	QTY REQD -011	QTY REQD -001	PART OR IDENTIFYING NUMBER	CODE IDENT	NOMENCLATURE OR DESCRIPTION	DASH NO
					2			FWD BLOCKING ASSY	-051
					A/R			ADHESIVE, MMM-A-1617, TYPE I, RUBBER BASE OR EQUIVALENT	-047
					A/R			BAND, 88-S-781, STEEL, TYPE I, CLASS 1, REGULAR DUTY, ¾ x 0.020 FINISH A	-045
					A/R			TAPE, PPP-T-60, TYPE III, CLASS 2 OR EQUIVALENT	-043
					1			AFT YOKE ASSY	-041
					A/R			WRAP, MIL-B-121, GRADE A, CLASS 2, TYPE OPTIONAL	-039
					1			PAD, PPP-C-1752, POLYETHYLENE FOAM, TYPE IV, CLASS 1, 20 3/4 LG, 2 THK, 14 1/2 WD	-037
				2				PAD, AMS-3208, RUBBER, 30 SHORE, 6 7/8 LG, 7/8 THK, 1 1/8 WD	-035
	4							PAD, AMS-3208, RUBBER, 30 SHORE, 8 LG, 7/8 THK, 1 7/8 WD	-033
					1			AFT CRADLE ASSY	-031
	2	2						PAD, AMS-3208, RUBBER, 30 SHORE, 6 LG, 7/8 THK, 2 1/8 WD	-029
		4						PAD, AMS-3208, RUBBER, 30 SHORE, 6 LG, 7/8 THK, 4 7/8 WD	-027
1								PAD, AMS-3208, RUBBER, 30 SHORE, 17 3/16 LG, 7/8 THK, 3 1/4 WD	-025
			1					PAD, AMS-3208, RUBBER, 30 SHORE, 18 1/2 LG, 7/8 THK, 3 1/4 WD	-023
					2			CENTER BLOCKING ASSY	-021
					10			BLOCKING, PLYWOOD, NN-P-530, GROUP B 6 LG, 3/4 THK, 1 1/2 WD	-019
					5			BLOCKING, PLYWOOD, NN-P-530, GROUP B 19 7/8 LG, 3/4 THK, 1 1/2 WD	-017
	6							PANEL, PLYWOOD, NN-P-530, GROUP B, 20 3/4 LG, 3/4 THK, 7 1/4 WD	-015
		6						PANEL, PLYWOOD, NN-P-530, GROUP B, 20 3/4 LG, 3/4 THK, 7 1/4 WD	-013
					1			BLOCKING ASSY	-011
4								PANEL, PLYWOOD, NN-P-530, GROUP B, 20 3/4 LG, 3/4 THK, 7 1/4 WD	-009
			4					PANEL, PLYWOOD, NN-P-530, GROUP B, 20 3/4 LG, 3/4 THK, 7 1/4 WD	-007
					1			PANEL, PLYWOOD, NN-P-530, GROUP B, 20 3/4 LG, 3/4 THK, 14 1/2 WD	-005
					1			CONTAINER-CLEATED PLYWOOD, DOMESTIC, STYLE A, GRADE B, TYPE OF LOAD 2, PPP-B-601	-003
								CONTAINER-PISTON, MLG; ASSY OF	

ADDITIONAL CODE IDENT NO

DRAFTSMAN W. RONGAUS 88-3-29
CHECKER
ENGINEER W. RONGAUS 88-4-29
APPROVAL
APPROVAL
AIR FORCE APPROVAL

PARTS LIST

MANUFACTURER PART NUMBER	NATIONAL STOCK NUMBER
188184	1620-01-167-0942
DRAWING NUMBER	TPO NUMBER
L8604111	TPO-01-167-0942

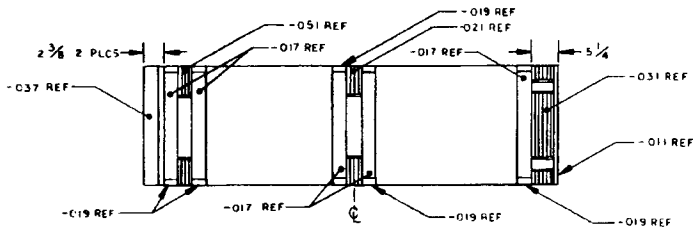
CONTAINER-PISTON, MLG, ASSY OF

FSCM NO 43999 SIZE D

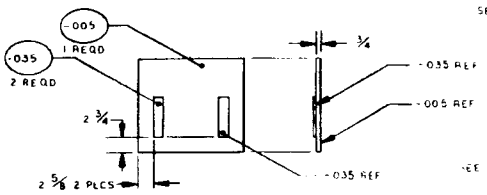
SCALE NONE SHEET 1 OF 3

L8604111

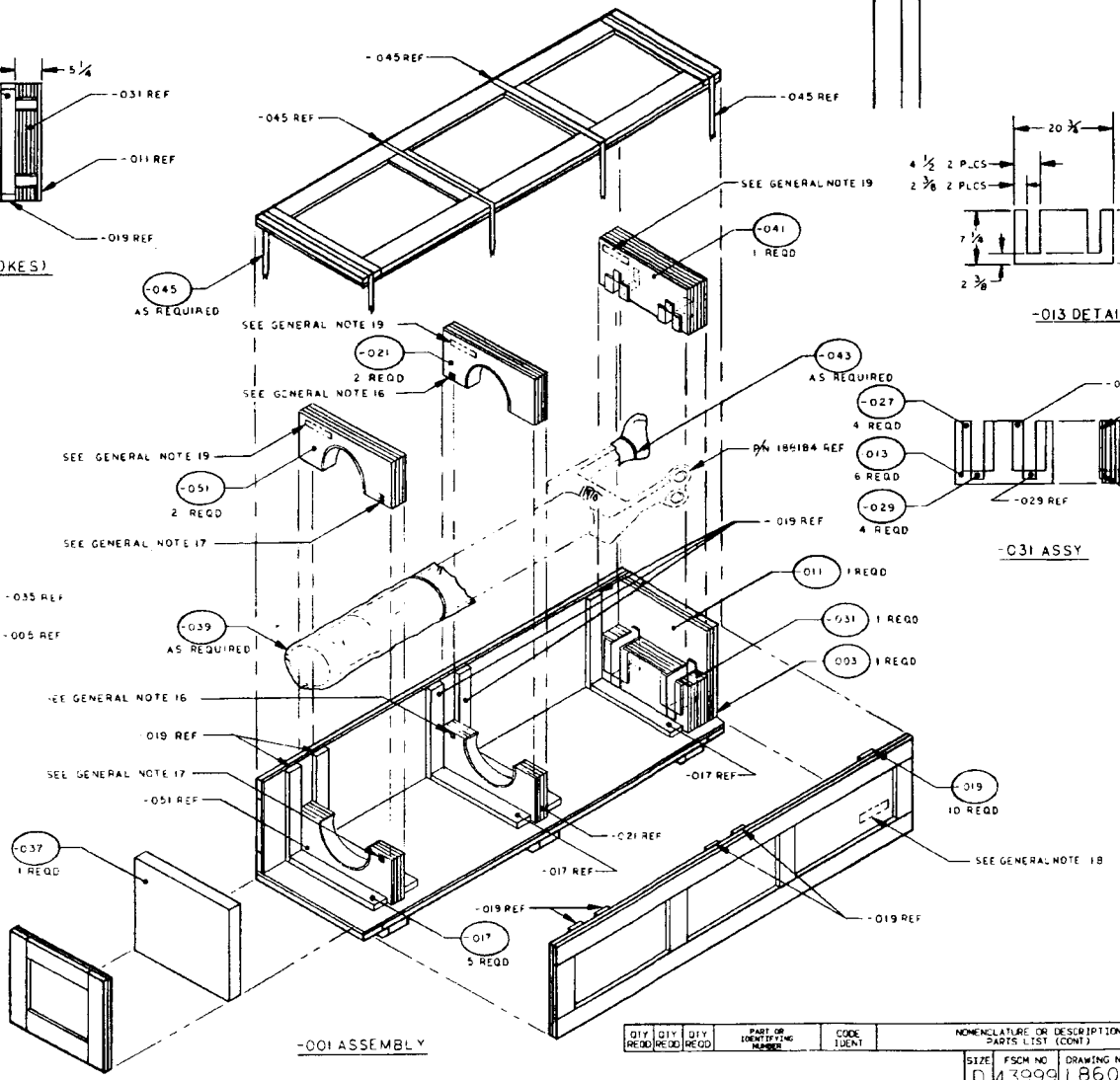
TPO-01-167-0942



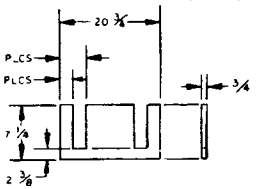
PLAN VIEW (WITHOUT YOKES)



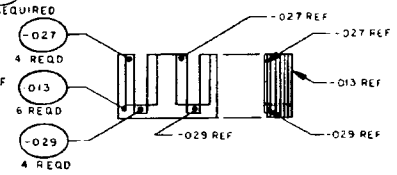
-011 ASSY



-001 ASSEMBLY



-013 DETAIL



-031 ASSY

REVISIONS				
ZONE	LTR	DESCRIPTION	DATE	APPROVED

QTY REQD	QTY REQD	QTY REQD	PART OR IDENTIFYING NUMBER	CODE IDENT	NOMENCLATURE OR DESCRIPTION PARTS LIST (CONT)	DASH NO

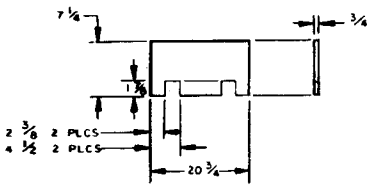
SIZE	FSCM NO	DRAWING NO
D	43999	L8604111

SCALE NONE SHEET 2 OF 3

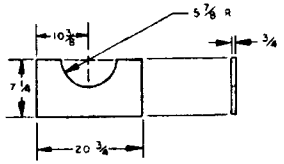
L8604111

TPO-01-167-0942

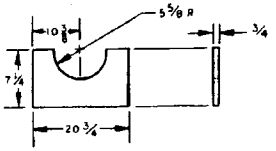
REVISIONS				
ZONE	LTR	DESCRIPTION	DATE	APPROVED



-015 DETAIL



-007 DETAIL



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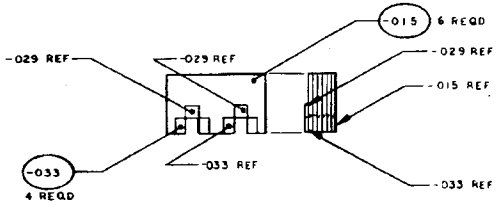

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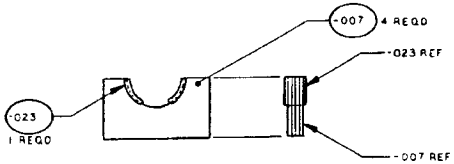

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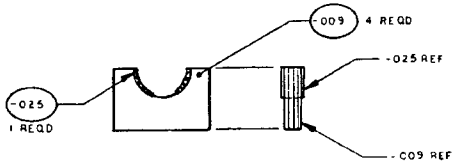


-051 ASSY

QTY REQD	QTY REQD	QTY REQD	PART OR IDENTIFYING NUMBER	CODE IDENT	NOMENCLATURE OR DESCRIPTION PARTS LIST (CONT)	DASH NO

SIZE	FSCM NO	DRAWING NO.
D	43999	L8604111

SCALE NONE SHEET 3 OF 3

L8604111

SPECIAL PACKAGING INSTRUCTION

CODE ID 81205

SPI NO. (TPO) 00-771-8827

SHEET 1 OF 2

PART OR DRAWING NO.	NATIONAL STOCK NO.	CURRENT REV
5-71661-503•	1620-00-771-8827	

ITEM NOMENCLATURE
PISTON, LANDING GEAR

ORIGINAL DATE 84033

ILL E. NYE E. Nye
CHK S. CRYSEL S. Crysel
ENGR P. BURNITT P. Burnitt
AUTH R. ELBRADER R. Elbrader

PRESERVATION IAW MIL-P-116

LEVEL A METHOD I
LEVEL B METHOD I
LEVEL C METHOD I

CLEANING C-1
DRYING D-1
PRESERVATIVE MIL-P-3420

MARKING IAW MIL-STD-129

SPECIAL MARKING:
SPI NO. 00-771-8827

MARK THE SPI NUMBER ON ONE SIDE OF THE CONTAINER.

•ADDITIONAL P/N 5-71661-504

••SOURCE OF SUPPLY FOR TORQUE WASHER, CATALOG NO. MS-98398: CARR FASTENER CO.
31 AMES STREET
CAMBRIDGE, MA 02142

CLOSURE
IN ACCORDANCE WITH MIL-B-26195

PACKING AS SPECIFIED BELOW AND BILL OF MATERIALS

LEVEL	SPEC	STYLE	TYPE	CL	VAR	GR
A	MIL-B-26195(MOD)	A	II	1		
B	MIL-B-26195(MOD)	A	I	1		
C	MIL-B-26195(MOD)	A	I	1		

	LEVEL A	LEVEL B	LEVEL C
GROSS CU FT	12.7	12.7	12.7
GROSS WT LBS	155	155	155
DESIGN FRAGILITY	120 G.	120 G.	120 G.

	LENGTH	WIDTH	DEPTH
CTNR I.D.	15 IN.	66 IN.	14 IN.
CTNR O.D.	17 IN.	68 IN.	19 IN.
ITEM DIM	63 IN.	12½ IN.	6¾ IN.
ITEM WT LBS	85		

NOTES:

1. SECURE -2 TO -4 USING 3D NAILS CONFORMING TO FF-N-105, TYPE II, STYLE 1.
2. COVER ALL CRITICAL AREAS WITH -17 AND OVERWRAP WITH -18. SECURE BOTH WITH TAPE, -19.

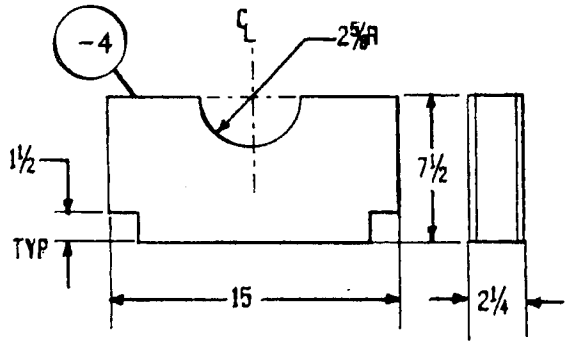
-NOTICE-

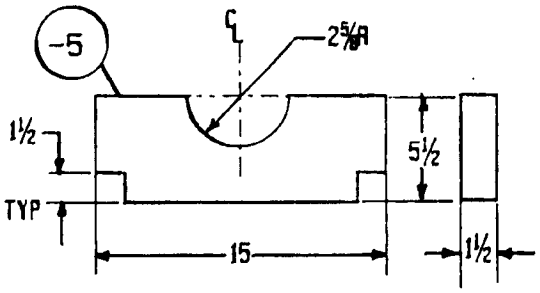
CONSULT YOUR MICROFICHE SPI (TPO) CROSS REFERENCE FILE TO DETERMINE LATEST SPI (TPO) IN EFFECT. (SEE AFR 71-9, PARA 13-9).

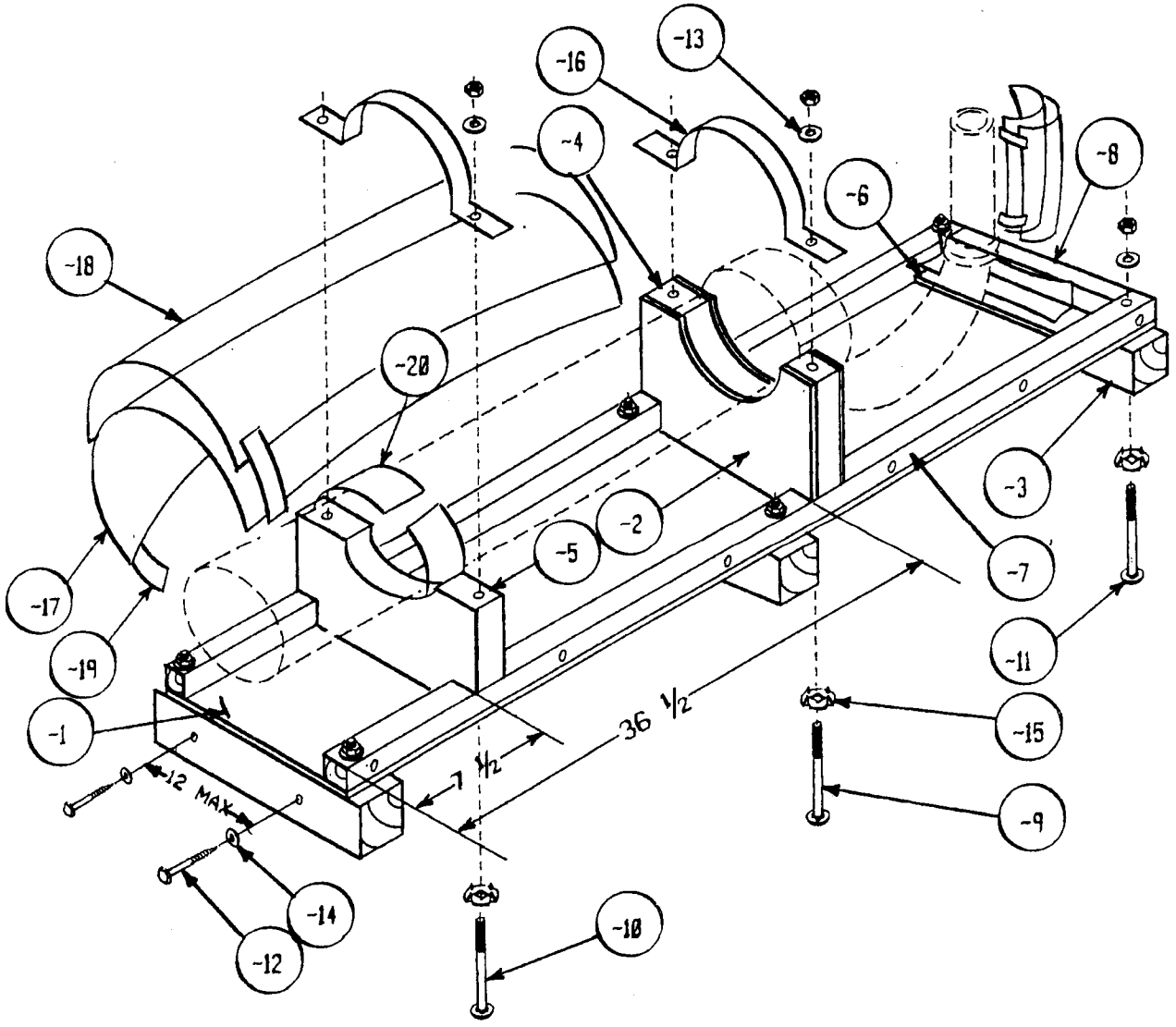
PART NO.	QTY REQD	NOMENCLATURE OR DESCRIPTION	SIZE	MATERIAL SPECIFICATION
-20	3	CHAFFING STRIPS	AS REQUIRED X 3	PAPER TYPE I PPP-P-115
-19	A/R	TAPE	AS REQUIRED X ½	NYLON REINFORCED TYPE III PPP-T-97
-18	2	WRAPS	AS REQUIRED	POLYOLEFIN TYPE I, CLASS 1, GRADE A, FIN 1 L-P-378
-17	2	BARRIERS	AS REQUIRED	VPI TYPE I, CL 1, STYLE C, MIL-P-3420 OR EQUAL
-16	2	HOLD DOWN STRAPS	1¼ X 0.035 X 16	STEEL CL 1, TYPE I, HVY DUTY, FIN A QQ-S-781
-15	10	TORQUE WASHERS	TO FIT ⅜ BOLTS	STEEL ••MS-98398
-14	16	WASHERS	¼	STEEL TYPE A, GR I, CLASS B FF-W-92
-13	10	WASHERS	⅜	STEEL TYPE A, GR I, CLASS B FF-W-92
-12	16	LAG BOLTS	2½ X ¼	STEEL TYPE I, STYLE 1, GR B FF-B-561
-11	6	BOLTS	6 X ⅜	STEEL TYPE I, CLASS 1, STYLE A FF-B-584
-10	2	BOLTS	7 X ⅜	STEEL TYPE I, CLASS 1, STYLE A FF-B-584
-9	2	BOLTS	9 X ⅜	STEEL TYPE I, CLASS 1, STYLE A FF-B-584
-8	1	BLOCK	2 X 2 (NOM) X 12	WOOD CLASS 2 MIL-STD-731
-7	2	HEADERS	2 X 2 (NOM) X 66	WOOD CLASS 2 MIL-STD-731
-6	1	BLOCK	1 X 4 (NOM) X 12	WOOD CLASS 2 MIL-STD-731
-5	1	SADDLE	2 X 6 (NOM) X 15	WOOD CLASS 2 MIL-STD-731
-4	1	SADDLE	2 X 8 (NOM) X 15	WOOD CLASS 2 MIL-STD-731
-3	3	SKIDS	4 X 4 (NOM) X 17	WOOD CLASS 2 MIL-STD-731
-2	2	SADDLE REINFORCEMENTS	15 X 7¼ X ⅜	PLYWOOD GROUP B NN-P-530
-1	1	BASE	66 X 15 X ½	PLYWOOD GROUP B NN-P-530

SPI NO. 00-771-8827

SPECIAL PACKAGING INSTRUCTION (CONTINUATION SHEET)	CODE ID 81205	SPI NO. (TPO) 00-771-8827
ITEM NOMENCLATURE PISTON, LANDING GEAR		SHEET 2 OF 2

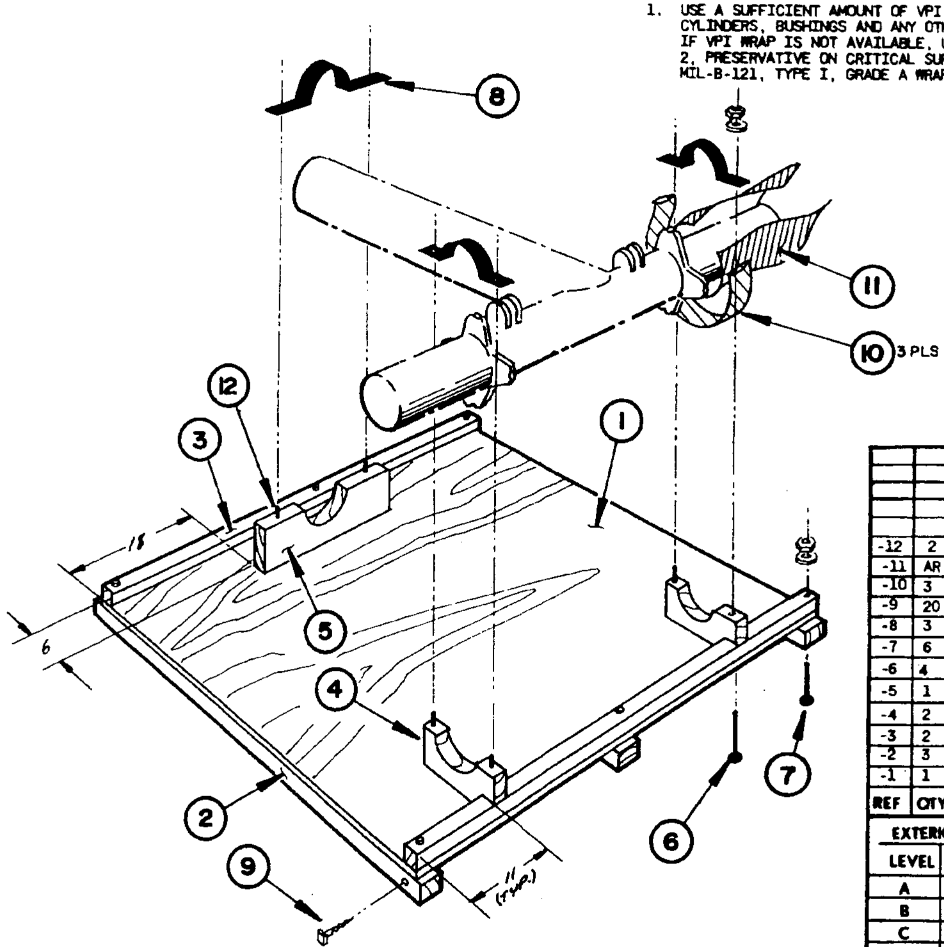






NOTES:

1. USE A SUFFICIENT AMOUNT OF VPI WRAP TO COVER AXLES, CYLINDERS, BUSHINGS AND ANY OTHER CRITICAL SURFACES. IF VPI WRAP IS NOT AVAILABLE, USE MIL-C-16173, GRADE 2, PRESERVATIVE ON CRITICAL SURFACES AND WRAP WITH MIL-B-121, TYPE I, GRADE A WRAP. TAPE TO SECURE.



REVISIONS

	LTR	DESCRIPTION	DATE	APPROVED
REV	D	REDRAWN TO NEW FORMAT; UPDATED SPECS	80185	
REV	E	CHGD SIZE OF REF -4 ADDED REF -12	80296	

PRESERVATION & PACKAGING

LEVEL A IN A/W MIL-P-116 METHOD I
LEVEL B IN A/W MIL-P-116 METHOD I
LEVEL C
CLEANING & DRYING IN A/W MIL-P-116
PRESERVATION COMPOUND SEE NOTE 1
AMOUNT OF DESICCANT (units) N/A
CLOSURE OR STRAPPING IN A/W MIL-B-26195
MARKING IN A/W MIL-STD-129
SPECIAL MARKING: APPLICABLE SEE INSTRUCTIONS / NOT APPLICABLE
INSTRUCTIONS: MARK: "TPO 00-783-8023" ON ONE SIDE OF CONTAINER.

REF	QTY	DESCRIPTION	SIZE	MATERIAL	SPECIFICATION
-12	2	BOLTS	3/8 X 7	STEEL, TYPE I, CL 1, STYLE A,	FF-B-584
-11	AR	WRAP	AS REQUIRED (SEE NOTE 1)	VPI TYPE I, CL 2, STYLE A	MIL-P-3420
-10	3	PADS	3 X 1/8 X AR	PAPER TYPE I	PPP-P-115
-9	20	LAG BOLTS	1/4 X 2 1/4	TYPE I, STYLE 2, GR B	FF-B-561
-8	3	STRAPS	.035 X 1 1/4 X AR	TYPE I, CL 1	QQ-S-781
-7	6	BOLTS	3/8 X 5 1/2		
-6	4	BOLTS	3/8 X 9	STEEL TYPE I CL 1 STYLE A	FF-B-584
-5	1	SADDLE	2 X 6 (NOM) X 21		
-4	2	SADDLES	2 X 8 (NOM) X 12		
-3	2	END TIES	2 X 2 (NOM) X 57		
-2	3	SKIDS	3 X 4 (NOM) X 53	WOOD CLASS 2	MIL-STD-73
-1	1	FLOOR	57 X 51 X 3/4	PLYWOOD STD GR W/EXT GLUE	NN-P-530

LIST OF MATERIALS

EXTERIOR CONTAINER LEVEL	SPECIFICATION	SIZE I.D.	STYLE	TYPE	CLASS	VARIETY	GRADE	GROSS WT	GROSS CU
A	MIL-B-26195	51 X 57 X 14	A	II	1			435	34.0
B				I					
C									
AIR									

NET WT 391 | OUTSIDE DIMENSIONS 53 X 59 X 18 3/4

SYM	NOMENCLATURE	CODE IDENT	IDENTIFYING NO.	MATERIAL / SPECIFICATION	UNIT WT	ZONE	FIND NO.

QUANTITY REQUIRED PER DASH NO.

PARTS LIST

CURRENT CODE IDENT NO. | NEXT ASSEMBLY | USED ON
APPLICATION

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES — TOLERANCES ON: FRACTIONS ± DECIMALS .XX ± .XXX ± ANGLES ±

DATE
DR S. Crysel 80185
CHK L. Elbrader 80185
ENGR ... 80185
... Miller 80185
AIR FORCE AUTHENTICATION
AIR FORCE RELEASE
... 80185

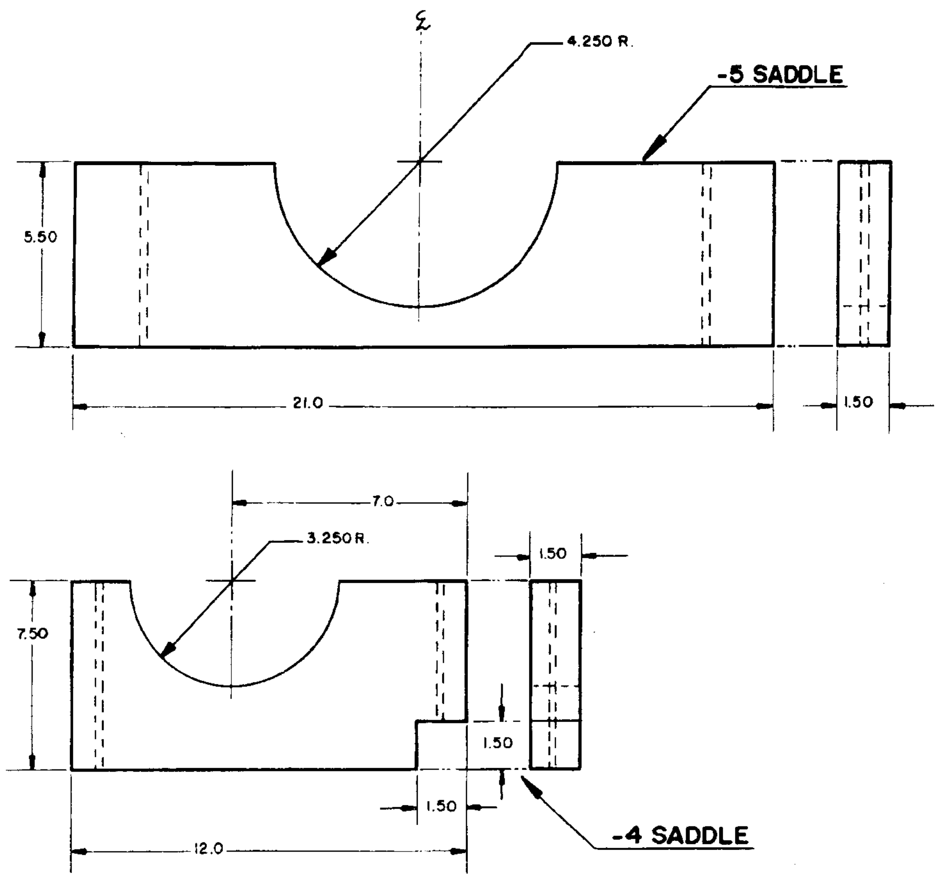
U.S. AIR FORCE
OGDEN ALC HILL AFB UTAH

TITLE
CYLINDER, B-52

SIZE C | AIR FORCE CODE IDENT NO. | DRAWING NO. TPO 00-783-8023
SCALE N/A | 1620 | SHEET 1 OF 2

TPO 00-783-8023

LTR	DESCRIPTION	DATE	APPROVED
REVISIONS			



QUANTITY REQUIRED PER DASH NO.	SYM	NOMENCLATURE	CODE IDENT	IDENTIFYING NO.	MATERIAL / SPECIFICATION	UNIT WT	ZONE	FIND NO.

PARTS LIST

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES — TOLERANCES ON: FRACTIONS ± DECIMALS .XX ± .XXX ± ANGLES ±

DR SBC
CHK J.E.
ENG
J.J.N.
AIR FORCE AUTHENTICATION
AIR FORCE RELEASE

CURRENT CODE IDENT NO. | NEXT ASSEMBLY | USED ON
APPLICATION

U.S. AIR FORCE
OGDE ALC HILL AFB UTAH

TITLE
CYLINDER, B-52

SIZE C | AIR FORCE CODE IDENT NO. | DRAWING NO. 00-783-8023

SCALE N/A | 1620 | SHEET 2 OF 2

ENGINEERING DRAWING LAYOUT C

AF FORM JUN 74 1654

SPECIAL PACKAGING INSTRUCTION

CODE ID	SPI NO. (TPO)
98747	F01-304-7618
	SHEET 1 OF 3

PART OR DRAWING NO.	NATIONAL STOCK NO.	CURRENT REV
388058-19	1620-01-419-9739	A

ITEM NOMENCLATURE
LANDING GEAR, RETRACTABLE

ORIGINAL DATE 94297

ILL. P. ELLISON
CHK. S. EDWARDS
ENGR. K.W. OLSON
AUTH. A. BRIMHALL

MILITARY PRESERVATION IAW: MIL-STD-2073
SERVICEABLE METHOD 20
UNSERVICEABLE METHOD 10

QUP 001
ICQ 000

CLEANING & DRYING IAW: MIL-STD-2073
PRESERVATIVE MIL-C-16173, CLASS II GRADE 2

MARKING IAW MIL-STD-129
SPECIAL MARKINGS:
A) SPI NO. F01-304-7618
*MARK THE SPI NUMBER ON ONE SIDE OF THE CONTAINER
B) CAUTION: LIFT BY BASE ONLY
C) TO OPEN, REMOVE BOTTOM LAG BOLTS

CLOSURE I.A.W. MIL-B-26195

PACKING AS SPECIFIED BELOW AND BILL OF MATERIALS

LEVEL	SPEC	STYLE	TYPE	CL	VRTY	GR
A	MIL-B-26195 (MOD)	A	II	1		I
B	MIL-B-26195 (MOD)	A	I	1		I

	LEVEL A	LEVEL B
GROSS CU FT	23.639	23.639
GROSS WT LBS	325	325
DESIGN FRAGILITY G	100	100

	LENGTH	WIDTH	DEPTH
CNTR I.D.	62	35	13
CNTR O.D.	64	37	17 1/4
ITEM DIM	58	28	10

ITEM WT LBS 215

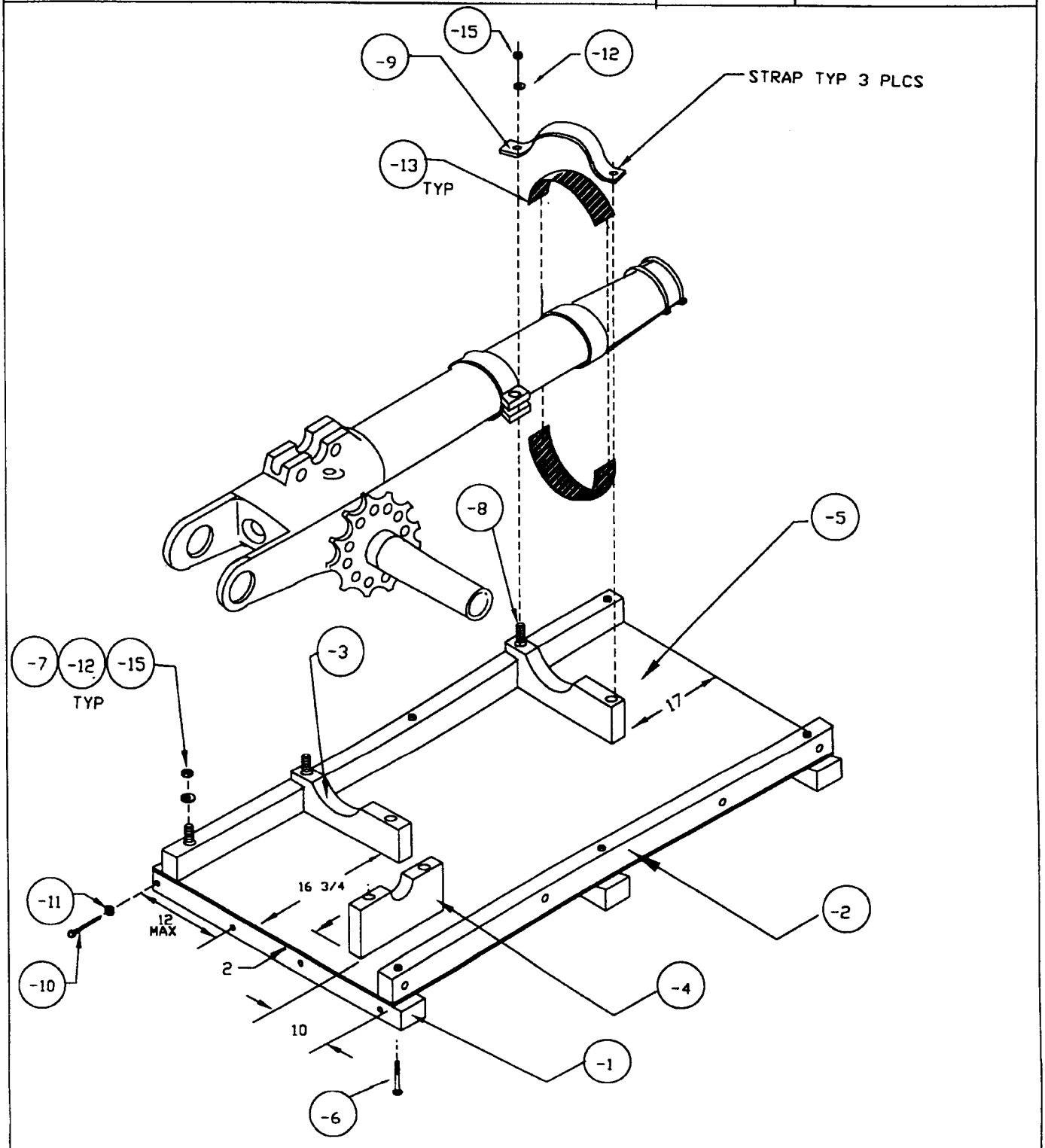
REVISIONS		
LTR	DESCRIPTION	DATE
A	CHG. NSN,UPDATE & REVISE	98036

NOTES:
1. APPLY MIL-C-16173 TO AXLES AND BUSHINGS. COVER WITH MIL-B-121, TYPE I, GRADE A, CLASS OPTIONAL BARRIER AND SECURE WITH A-A-1682 TAPE TYPE I OR II.

P/N	QTY REQD	NOMENCLATURE DESCRIPTION	SIZE (INCHES UNLESS SPECIFIED)	MATERIAL SPECIFICATION REVISIONS
-15	12	NUTS	3/8	FF-N-836 TYPE II, STYLE 4
-14	18	CORNER STRAPS(LEVEL A ONLY)	3/4 X .028 X 12	ASTM D3953 TYPE 2, REG. DUTY, FINISH A
-13	3	CUSHIONING	3 X 1/2 X A/R	PPP-P-115 TYPE I
-12	12	WASHERS	3/8	FF-W-92 TYPE A, GRADE I, CLASS A
-11	20	WASHERS	1/4	FF-W-92 TYPE A, GRADE I, CLASS A
-10	20	LAG BOLTS	1/4 X 2 1/2	FF-B-561 TYPE I, STYLE 1, GRADE B
-9	3	STRAPS	1 1/4 X .035 X A/R	ASTM D3953 TYPE I, REG. DUTY, FINISH A
-8	6	BOLTS	3/8 X 5 1/2	FF-B-584, TYPE I, CLASS I, STYLE A,REGULAR
-7	4	BOLTS	3/8 X 5	FF-B-584,TYPE I, CLASS I, STYLE A,REGULAR
-6	2	BOLTS	3/8 X 7	FF-B-584,TYPE I, CLASS I, STYLE A,REGULAR
-5	1	BASE	62 X 35 X 3/4	A-A-55057 TYPE A
-4	1	SADDLE (SEE DETAIL)	2 X 6 (NOM) X 11	MIL-STD-731 CLASS 2
-3	2	SADDLES (SEE DETAIL)	2 X 4 (NOM) X 13 1/2	MIL-STD-731 CLASS 2
-2	2	END TIES	2 X 2 (NOM) X 62	MIL-STD-731 CLASS 2
-1	3	SKIDS	3 X 4 (NOM) X 37	MIL-STD-731 CLASS 2

SPI NO. F01-304-7618

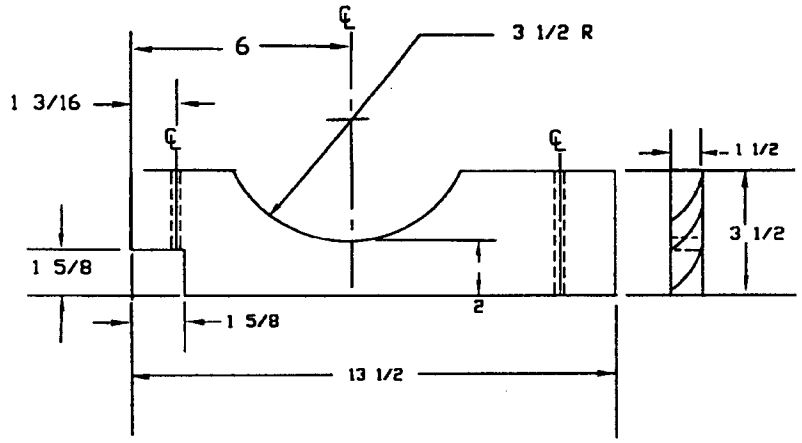
SPECIAL PACKAGING INSTRUCTION	CODE ID 98747	SPI NO. (TPO) F01-304-7618
ITEM NOMENCLATURE LANDING GEAR, RETRACTABLE		SHEET 2 OF 3



DD FORM 2169 MOD

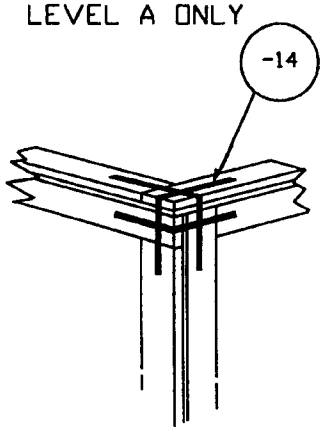
COMPUTER GENERATED

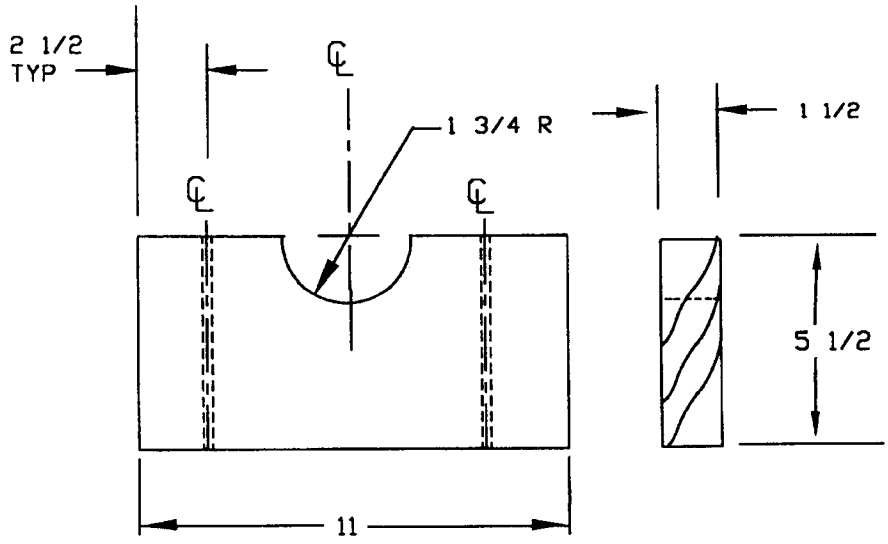
SPECIAL PACKAGING INSTRUCTION	CODE ID 98747	SPI NO. (TPO) F01-304-7618
ITEM NOMENCLATURE LANDING GEAR, RETRACTABLE		SHEET 3 OF 3



(-3) DETAIL (2 REQ)

LEVEL A ONLY



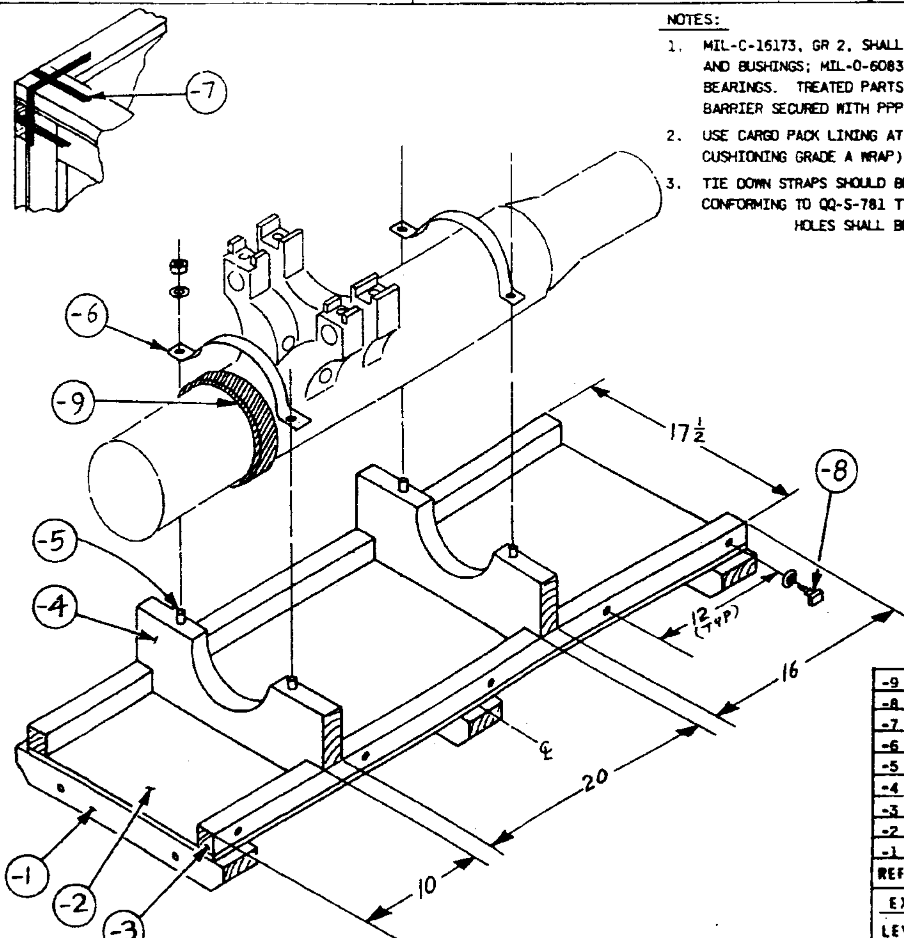


(-4) DETAIL (1 REQ)

1620-862-8285

NOTES:

1. MIL-C-16173, GR 2, SHALL BE APPLIED TO AXLES, CYLINDERS AND BUSHINGS; MIL-0-6083 INTERNALLY, AND MIL-G-23827 TO BEARINGS. TREATED PARTS SHALL BE COVERED WITH MIL-B-121 BARRIER SECURED WITH PPP-T-60 TAPE.
2. USE CARGO PACK LINING AT ALL SADDLES (3" X 1/2" CUSHIONING GRADE A WRAP).
3. TIE DOWN STRAPS SHOULD BE 1 1/4 INCHES WIDE METAL CONFORMING TO QQ-S-781 TYPE 1, CLASS A. HOLES SHALL BE 7/16 INCH DIAMETER.



REVISIONS

ZONE	LTR	DESCRIPTION	DATE	APPROVED
REV.	A	THIS DRAWING SUPERSEDES TPO 1620-862-8285 DATED 4-10-73	5-9-73	

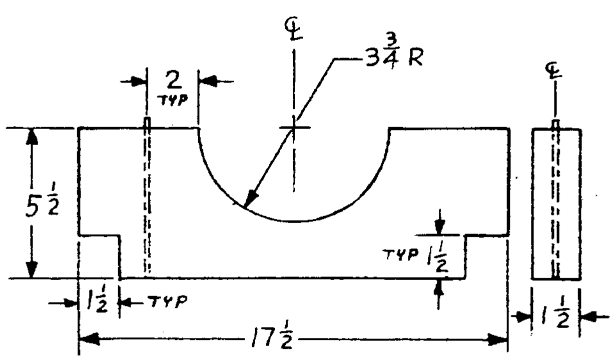
PRESERVATION & PACKAGING

LEVEL A IN A/W MIL-P-116 METHOD I
LEVEL B IN A/W MIL-P-116 METHOD I
LEVEL C
CLEANING & DRYING IN A/W MIL-P-116
PRESERVATION COMPOUND SEE NOTE 1
AMOUNT OF DESICCANT (units) N/A
CLOSURE OR STRAPPING IN A/W MIL-B-26195
MARKING IN A/W MIL-STD-129
SPECIAL MARKING [X] APPLICABLE SEE INSTRUCTIONS [ ] NOT APPLICABLE
INSTRUCTIONS: MARK TPO 862-8285 ON ONE SIDE OF CONTAINER.

REF	QTY	DESCRIPTION	SIZE	MATERIAL	SPECIFICATION
-9	2	PADS	1/2 X 3 X 22	CELLULOSE	PPP-C-843
-8	12	LAG BOLTS	1/4 X 2 1/2	↑	FF-B-561
-7	16	STRAPS	.020 X 3/4 X 12		↑
-6	2	STRAPS	.035 X 1 1/4 X 17		QQ-S-781
-5	4	BOLTS SQ NECK	3/8 X 7	STEEL	FF-B-584
-4	2	SADDLE BLOCKS	2 X 6 NOM X 17 1/2	↑	↑
-3	2	END TIES	2 X 2 NOM X 49	WOOD	MIL-STD-731
-2	1	FLOOR	3/4 X 17 1/2 X 49	PLYWOOD	NN-P-530 STD GR EXT GLUE
-1	3	SKIDS	3 X 4 NOM X 18 1/2	WOOD	MIL-STD-731

EXTERIOR CONTAINER		LIST OF MATERIALS						GROSS	
LEVEL	SPECIFICATION	SIZE I.D.	STYLE	TYPE	CLASS	VARIETY	GRADE	WT	CU
A	MIL-B-26195	17½ x 49 x 13	A	II	1			137	10.0
B	MIL-B-26195	17½ x 49 x 13	A	1	1			137	10.0
C									
AIR									

NET WT 70 OUTSIDE DIMENSIONS 19 1/2 X 51 X 17 1/2



-4 DETAIL
(2 REQUIRED)

QTY REQD	SYM	NOMENCLATURE	CODE IDENT	IDENTIFYING NO.	SPECIFICATION	MATERIAL	UNIT WT	ZONE	FIND NO.

LIST OF MATERIALS

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES
TOLERANCES ON FRACTIONS DECIMALS ANGLES
MATERIAL

APPROVED PACKAGE U.S.A.F. 23 U.S.P.C.

DRAFTSMAN H. Newey DATE 5-9-73
CHECKER
ENGINEER C.R. Roberts 5/9/73
5/9/73
CONTRACT NUMBER
AUTHENTICATION

U.S. AIR FORCE

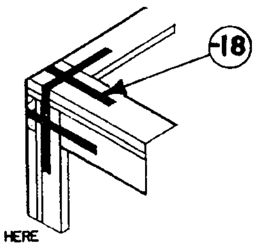
TITLE CYLINDER, SHOCK STRUT C-130

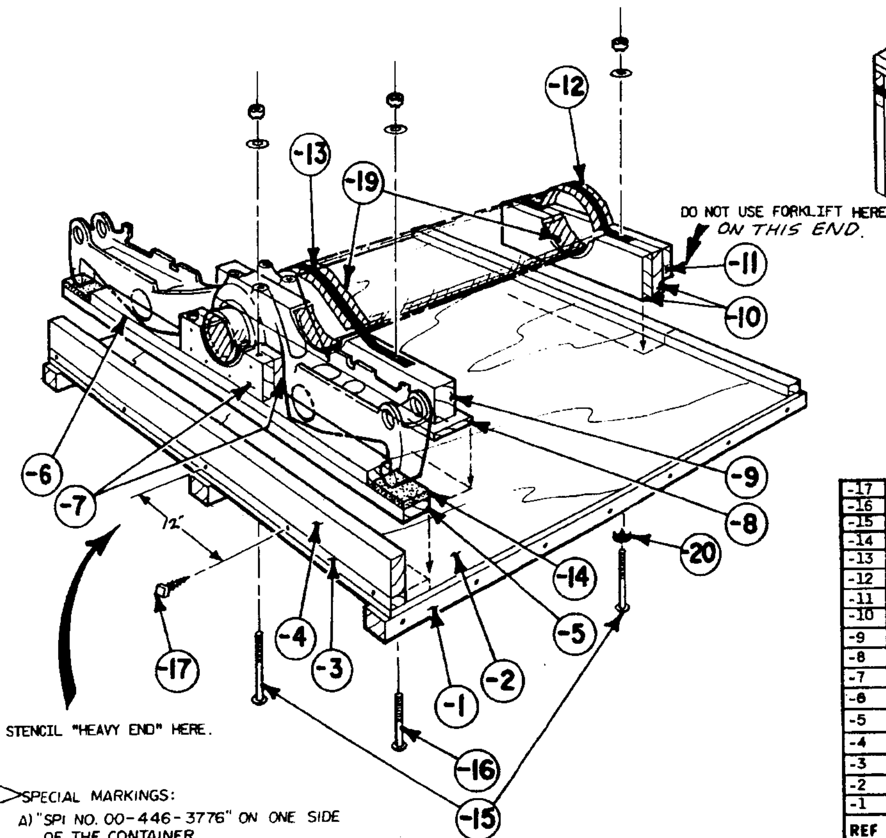
SIZE C | DRAWING NUMBER 1620-862-8285

SHEET 1 OF 1

AF FORM 1654 | ENGINEERING DRAWING LAYOUT C

REV	LTR	DESCRIPTION	DATE	APPROVED
REV	A	SUPERSEDES TPO DATED 77098	80128	
REV	B	ADDED NOTE 5 AND CHGD RADIUS ON VIEWS A-A, B-B, C-C	80318	
REV	C	CHGD NOTE 1 AND SPECIAL MARKING	91112	





PRESERVATION & PACKAGING
LEVEL A IN A/W MIL-P-116 METHOD I
LEVEL B IN A/W MIL-P-116 METHOD I
LEVEL C
CLEANING & DRYING IN A/W MIL-P-116
PRESERVATION COMPOUND-SEE NOTE 1
AMOUNT OF DESICCANT (units)
CLOSURE OR STRAPPING IN A/W MIL-B-26195
MARKING IN A/W MIL-STD-129
SPECIAL MARKING [X] APPLICABLE SEE INSTRUCTIONS / [ ] NOT APPLICABLE
INSTRUCTIONS: 1

1 SPECIAL MARKINGS:
A) "SPI NO. 00-446-3776" ON ONE SIDE OF THE CONTAINER.
B) "HEAVY END" AS INDICATED BY ILLUSTRATION ABOVE.
C) "NOT FOR OUTSIDE STORAGE" ONE SIDE OF THE CONTAINER.
D) "CAUTION-LIFT BY BASE ONLY"
E) "TO OPEN REMOVE BOTTOM LAGS"

REF	QTY	DESCRIPTION	SIZE	MATERIAL	SPECIFICATION
-17	24	LAG BOLTS	1/4 X 2 1/2	TYPE I, STYLE 2, GR B	FF-B-561
-16	2	BOLTS, SQ NECK	3/8 X 8		
-15	4	BOLTS, SQ NECK	3/8 X 9 1/2	STEEL TYPE I CL 1 STYLE A	FF-B-584
-14	2	PADS	4 X 6 X 1	POLYETHYLENE TYPE I, CL 2, GR A,	PPP-C-1752
-13	1	STRAP	.035 X 1 1/4 X 40		
-12	1	STRAP	.035 X 1 1/4 X 30	STEEL TYPE I, CL 1, FIN A, HVY DTY	QQ-S-781
-11	1	BLOCK	2 X 6(NOM) X 24	WOOD CLASS 2	MIL-STD-731
-10	2	BLOCK (SADDLE)	2 X 8(NOM) X 24 SEE DETAIL		
-9	1	BLOCK (SADDLE)	4 X 6(NOM) X 34 SEE DETAIL	WOOD CLASS 2	MIL-STD-731
-8	1	BLOCK	1 X 6 X 36	PLYWOOD GROUP B	NN-P-530
-7	2	BLOCK (SADDLE)	2 X 6 (NOM) X 14 SEE DETAIL		
-6	1	BLOCK	2 X 4 (NOM) X 46		
-5	1	BLOCK	2 X 4 (NOM) X 60		
-4	1	BLOCK	2 X 6 (NOM) X 60		
-3	2	END TIES	2 X 2 (NOM) X 60	WOOD CLASS 2	MIL-STD-731
-2	1	FLOOR	3/4 X 60 X 65 1/2	PLYWOOD GROUP B	NN-P-530
-1	3	SKIDS	4 X 4 (NOM) X 67 1/2	WOOD CLASS 2	MIL-STD-731

LIST OF MATERIALS

EXTERIOR CONTAINER LEVEL	SPECIFICATION	SIZE I.D.	STYLE	TYPE	CLASS	VARIETY	GRADE	GROSS WT	GROSS CU
A	MIL-B-26195 (MOD)	65 1/2 X 60 X 18	A	II	1		I	860	56.309
B	MIL-B-26195 (MOD)	65 1/2 X 60 X 18	A	I	1		I	860	56.309
C	MIL-B-26195 (MOD)	65 1/2 X 60 X 18	A	I	1		I	860	56.309
AIR									

NET WT 660 — OUTSIDE DIMENSIONS 67 1/2 X 62 X 23 1/4

SYM	NOMENCLATURE	CODE IDENT	IDENTIFYING NO.	MATERIAL / SPECIFICATION	UNIT WT	ZONE	FIND NO.

PARTS LIST

QUANTITY REQUIRED PER DASH NO.

CURRENT CODE IDENT NO. — NEXT ASSEMBLY — USED ON — APPLICATION

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES — TOLERANCES ON: FRACTIONS ± DECIMALS .XX ± .XXX ± ANGLES ±

DATE 80128 / 80128 / 80128 / 80128

AIR FORCE AUTHENTICATION

AIR FORCE RELEASE 80128

U.S. AIR FORCE
OGDEN ALC HILL AFB UTAH

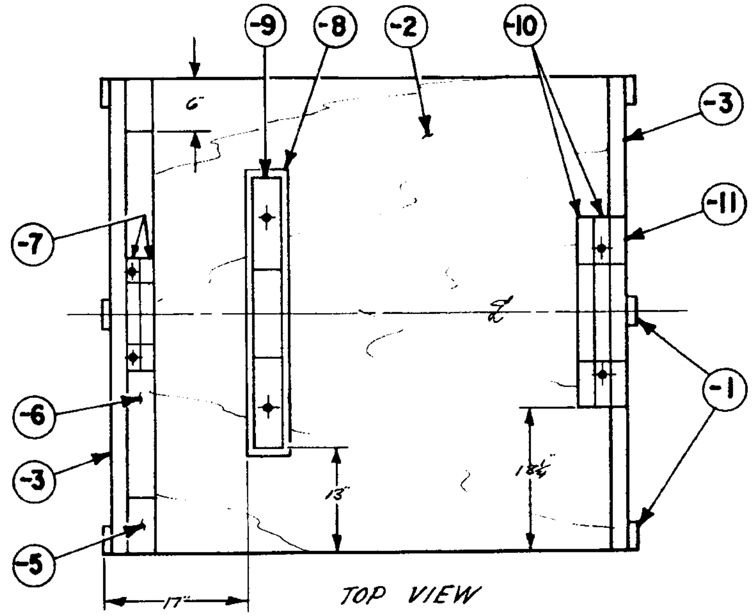
TITLE **OUTER CYLINDER, C-5**

SIZE C — TPO 00-446-3776

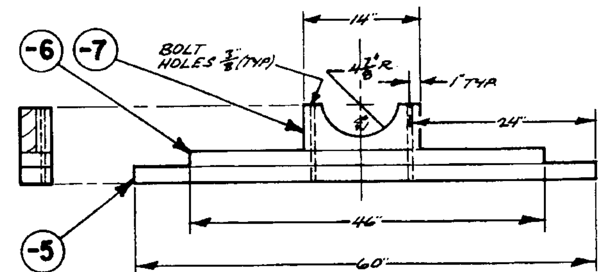
SCALE 1620 — SHEET 1 of 2

TPO 00-446-3776 I

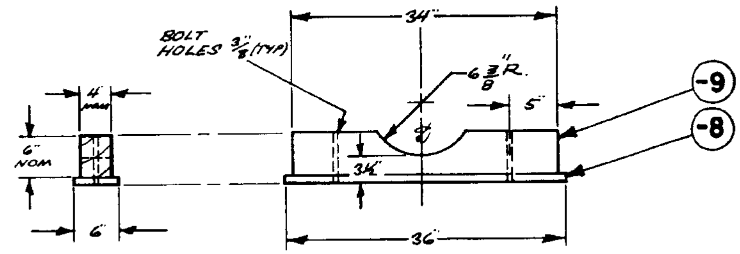
REVISIONS			
LTR	DESCRIPTION	DATE	APPROVED



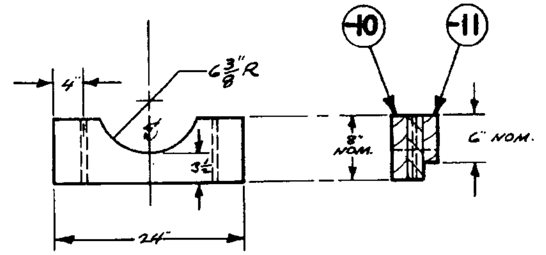
TOP VIEW



VIEW B-B



VIEW C-C



VIEW A-A

NOTES:

1. PRESERVATION COMPOUND: APPLY MIL-C-16173, GRADE 2, AND MIL-P-6083, INTERNALLY. APPLY MIL-G-23827 TO BEARINGS. TREATED PARTS SHALL BE COVERED WITH MIL-B-121 BARRIER SECURED WITH PPP-T-60 TAPE.
2. USE PAPER, PPP-P-115 OR EQUAL ON ALL POINTS OF CONTACT WITH WOOD BLOCKING AND METAL STRAPPING -13 ALL HOLES SHALL BE 3/8 INCH IN DIAMETER.
3. USING 20d NAILS, NAIL ITEMS -5, -6 & -7s, ALSO -4 TO -7. NAIL -8 TO -9. NAIL -10s TO -11
4. SOURCE OF SUPPLY FOR TORQUE WASHERS, CATALOG NO. MS-98398K2915: TRW FASTENER DIVISION
31 AMES ST
CAMBRIDGE, MASS. 02142

SYM	QTY	NOMENCLATURE	CODE IDENT	IDENTIFYING NO.	MATERIAL / SPECIFICATION	UNIT WT	ZONE	FIND NO.
-20	6	TORQUE WASHER		TO FIT 3/8 BOLT	STEEL NSN 5310-00-9532 (SEE NOTE 4)			
-19	AR	PAPER		AS REQUIRED	PAPER TYPE I PPP-P-115			
-18	16	STRAPS		.020 X 3/4 X 12	STEEL TYPE I, CL I, FIN A, REG DUTY, QQ-S-781			

QUANTITY REQUIRED PER DASH NO.

PARTS LIST

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES — TOLERANCES ON: FRACTIONS ± DECIMALS .XX ± .XXX ± ANGLES ±

CURRENT CODE IDENT NO. | NEXT ASSEMBLY | USED ON

APPLICATION

DR
CHK
ENG
9.71
AIR FORCE AUTHENTICATION
AIR FORCE RELEASE

U.S. AIR FORCE

TITLE

OUTER CYLINDER, C-5

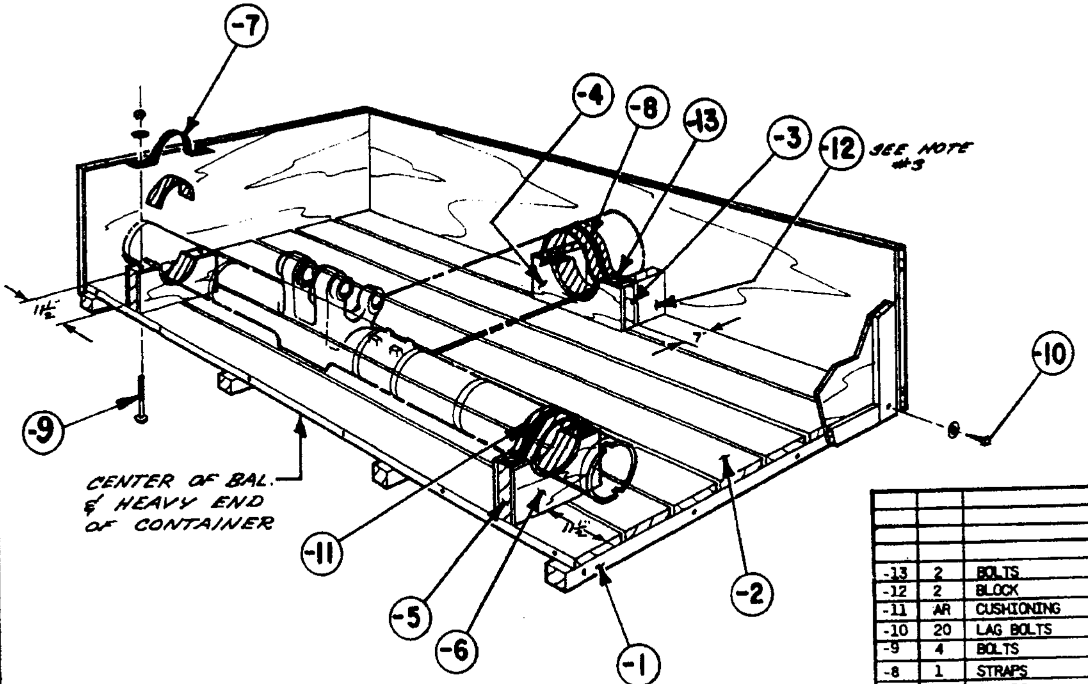
SIZE C | AIR FORCE CODE IDENT NO. | DRAWING NO. 00-446-3776

SCALE | 1620 | SHEET 2 OF 2

AF FORM 1654 JUN 71 PREVIOUS EDITION WILL BE USED.

ENGINEERING DRAWING LAYOUT C

TPO 00-409-4739



NOTES:

1. SECURE REF -6 TO REF -5 AND REF -4 TO REF -3 WITH 6D NAILS.
2. WRAP CRITICAL AREAS WITH TYPE I, CLASS 2, STYLE A OF MIL-P-3420 (VPI BARRIER). TAPE IN PLACE WITH TYPE III, CLASS PPP-T-60 TAPE OR EQUAL. MIL-C-16173 MAY BE USED AS AN ALTERNATIVE.
3. SECURE BLOCK REF -12 TO REF -3 AND CONTAINER WITH 16D NAILS.

REVISIONS

LTR	DESCRIPTION	DATE	APPROVED

PRESERVATION & PACKAGING
LEVEL A IN A/W MIL-P-116 METHOD I
LEVEL B IN A/W MIL-P-116 METHOD I
LEVEL C
CLEANING & DRYING IN A/W MIL-P-116
PRESERVATION COMPOUND
AMOUNT OF DESICCANT (units)
CLOSURE OR STRAPPING IN A/W
MARKING IN A/W MIL-STD-129
SPECIAL MARKING ☒ APPLICABLE SEE INSTRUCTIONS ☐ NOT APPLICABLE
INSTRUCTIONS: MARK: "TPO 00-409-4739" ON ONE SIDE OF CONTAINER. MARK "HEAVY END" AND "CENTER OF BALANCE" ON CONTAINER

REF	QTY	DESCRIPTION	SIZE	MATERIAL	SPECIFICATION
-13	2	BOLTS	3/8 X 12	STEEL SQ NECK TYPE I, STYLE A CL 1	FF-B-584
-12	2	BLOCK	2 X 10 (NOM) X 7	WOOD CLASS 2	MIL-STD-731
-11	AR	CUSHIONING	AS REQUIRED	PAPER TYPE I	PPP-P-115
-10	20	LAG BOLTS	1/4 X 3	STEEL GR C, STYLE 2, TYPE I	FF-B-561
-9	4	BOLTS	3/8 X 14	STEEL SQ NECK, TYPE I CL I, STYLE A	FF-B-584
-8	1	STRAPS	1 1/4 X 20 X 0.035	STEEL CL 1, TYPE I HVY DTY	QQ-S-781
-7	2	STRAPS	1 1/4 X 21 X 0.035	STEEL CL 1, TYPE I, HVY DTY	QQ-S-781
-6	4	BRACE (SEE DETAIL)	1/4 X 11 1/4 X 17	PLYWOOD GROUP A	NN-P-530
-5	2	SADDLES (SEE DETAIL)	2 X 12 (NOM) X 17	WOOD CL 2,	MIL-STD-731
-4	2	BRACE (SEE DETAIL)	1/4 X 9 1/4 X 17	PLYWOOD GROUP A	NN-P-530
-3	1	SADDLE (SEE DETAIL)	2 X 10 X 17	↑	↑
-2	7	FLOORBOARDS	2 X 10 X 106		
-1	4	SKIDS	4 X 4 X 68	WOOD CLASS 2	MIL-STD-731

LIST OF MATERIALS

EXTERIOR CONTAINER LEVEL	SPECIFICATION	SIZE I.D.	STYLE	TYPE	CLASS	VARIETY	GRADE	GROSS WT	GROSS CU
A	MIL-B-26195 (MOD)	66 X 106 X 24	A	II	2			1600	123.25
B	MIL-B-26195 (MOD)	66 X 106 X 24	A	I	2			1600	123.25
C									
AIR									

NET WT 1,247 (APP) OUTSIDE DIMENSIONS 68 X 108 X 29

SYM	NOMENCLATURE	CODE IDENT	IDENTIFYING NO.	MATERIAL /SPECIFICATION	UNIT WT	ZONE	FIND NO.

PARTS LIST

QUANTITY REQUIRED PER DASH NO.

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES – TOLERANCES ON: FRACTIONS ± DECIMALS .XX ± .XXX ± ANGLES ±

		DATE
DR	[signature]	80260
CHK	Jim [signature]	80260
ENG	C. J. Turner	80260
AIR FORCE AUTHENTICATION	Wayne J. Nielsen	80260
AIR FORCE RELEASE	[signature] Turner	80260

U.S. AIR FORCE
OGDEN ALC HILL AFB UTAH

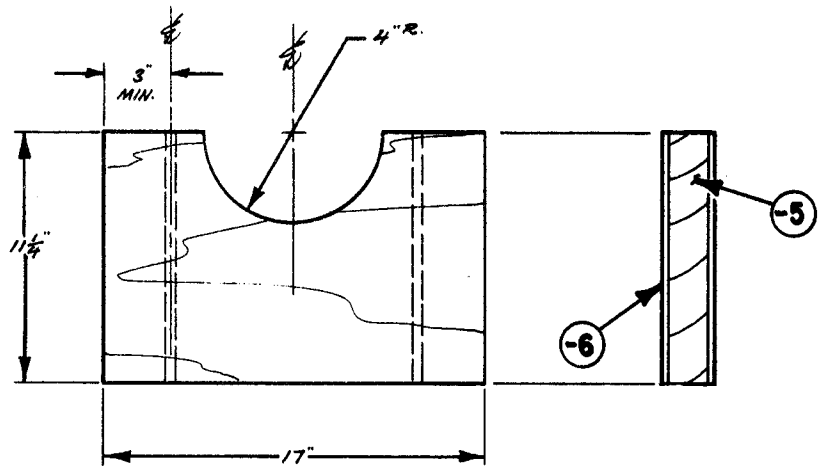
TITLE
PISTON AXLE ASSY

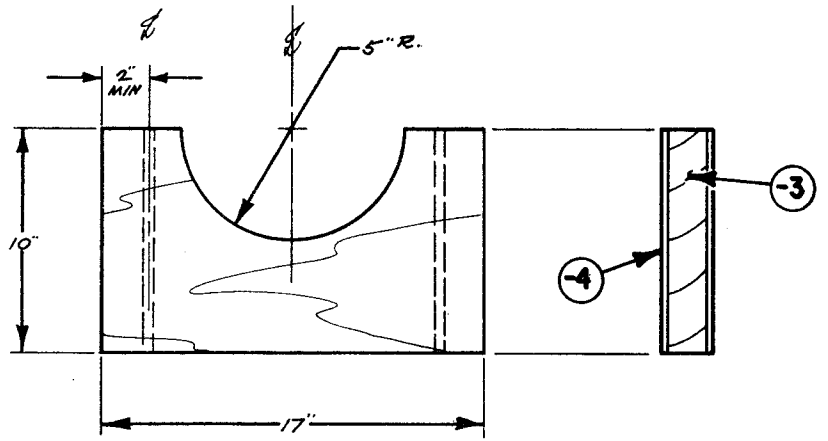
SIZE C | AIR FORCE CODE IDENT NO | DRAWING NO. TPO 00-409-4739

SCALE 1620 | SHEET 1 OF 2

CURRENT CODE IDENT NO. | NEXT ASSEMBLY | USED ON
APPLICATION

REVISIONS				
ZONE	LTR	DESCRIPTION	DATE	APPROVED





QTY REQD	SYM	NOMENCLATURE	CODE IDENT	IDENTIFYING NO.	SPECIFICATION	MATERIAL	UNIT WT	ZONE	FIND NO.

LIST OF MATERIALS

NEXT ASSY	USED ON	NEXT ASSY	FINAL ASSY
APPLICATION		QTY REQD	

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES
TOLERANCES ON FRACTIONS ± DECIMALS .XX ± .XXX ± ANGLES ±

MATERIAL

		DATE
DRAFTSMAN		
CHECKER		
ENGINEER		
A.F. PROJ. ENGR.		

CONTRACT NUMBER

A.F. DESIGN ACTIVITY AUTHENTICATION

U.S. AIR FORCE

TITLE

PISTON AXLE ASSY

SIZE	A.F. CODE IDENT NO.	DRAWING NUMBER
C		00-409-4739

SCALE 1620 SHEET 2 OF 2

SPECIAL PACKAGING INSTRUCTION

CODE ID	SPI NO. (TPO)
76301	01-023-2138
	SHEET 1 OF 2

PART OR DRAWING NO.	NATIONAL STOCK NO.	CURRENT REV
68A450704-1003	1620-01-023-2138	A

ITEM NOMENCLATURE: PISTON

ORIGINAL DATE: 76194

ILL E. NYE E. Nye
CHK S. CRYSEL
ENGR P. BURNITT P. Burnitt
AUTH R. ELBRADER R. Elbrader

PRESERVATION IAW MIL-P-116
- LEVEL A METHOD I
- LEVEL B METHOD I
- LEVEL C METHOD I

CLEANING C-1
DRYING D-1
PRESERVATIVE MIL-P-3420

MARKING IAW MIL-STD-129
SPECIAL MARKING:
SPI NO. 01-023-2138
MARK THE SPI NUMBER ON ONE SIDE OF THE CONTAINER, AND REMOVABLE DUNNAGE.

-NOTICE-

ITEMS ALREADY PACKED ACCORDING TO PREVIOUS EDITIONS OF THIS SPI (TPO) DO NOT REQUIRE RE-PACKING. CONSULT YOUR MICROFICHE SPI (TPO) CROSS REFERENCE FILE TO DETERMINE LATEST SPI (TPO) IN EFFECT. (SEE AFR 71-9, PARA 13-9).

CLOSURE LEVEL A, B, & C; IAW PPP-B-601. ALTERNATE PACK: METHOD 102, FIG. 3, FED. STD. 224 & TABLE VI OR IX OF PPP-B-636.

NOTES: LEVEL

1. ALTERNATE PACK TO BE USED FOR LEVELS B & C ONLY.

2. SECURE CLEATS -2, TO INSIDE OF BOX USING 4d NAILS CONFORMING TO FF-N-105, TYPE II, STYLE 7 OR 8.

PACKING AS SPECIFIED BELOW AND BILL OF MATERIALS

LEVEL	SPEC	STYLE	TYPE	CL	VAR	GR
A	PPP-B-601	A	O/S			B
B	PPP-B-601	A	DOM			B
C	PPP-B-601	A	DOM			B

	LEVEL A	LEVEL B	LEVEL C
GROSS CU FT	5.0	5.0	5.0
GROSS WT LBS	81	81	81
DESIGN FRAGILITY	110 G.	110 G.	110 G.

	LENGTH	WIDTH	DEPTH
CTNR I.D.	51 IN.	13 IN.	9 IN.
CTNR O.D.	53 IN.	15 IN.	11 IN.
ITEM DIM	48 ½ IN.	11 IN.	7 IN.
ITEM WT LBS	32		

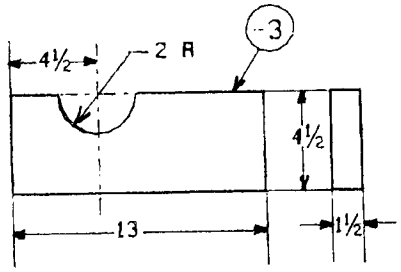
REVISIONS			
LTR	DESCRIPTION	DATE	APRVD
A	SUPERSEDES CONTRACTOR DWG		
	DATED 76194	84081	

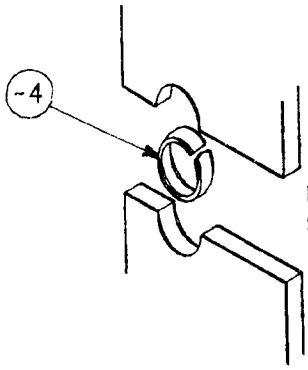
APPLICABLE ☒ NOT APPLICABLE ☐
ALTERNATE PACKAGE ——— FOAM-IN-PLACE
PRESERVE: METHOD 1 OF MIL-P-116
FOAM: MIL-P-26514, TYPE II, CLASS 1 ———
IF CLASS 2, USE GRADE B, CAT B.
CONTAINER: PPP-B-636
DIM 55 X 17 X 13
TECHNIQUE: INVERTED SPLIT PACK
CONTRACTORS USE MIL-F-83670. AF USE T.O. 00-85-37.

PART NO.	QTY REQD	NOMENCLATURE OR DESCRIPTION	SIZE	MATERIAL SPECIFICATION
-7	3	STRAPS	⅜ X 0.020 X 142	STEEL TYPE I, CL 1, FIN A, REG DUTY QQ-S-781
-6	1	WRAP	52 X 14	POLYOLEFIN TYPE 1, CL 1, GR A, FIN 1, L-P-378
-5	2	BARRIER	AS REQUIRED	VPI TYPE 1, CL 1, STYLE C, MIL-P-3420 OR EQUAL
-4	3	CHAFFING STRIPS	13 X 3	PAPER TYPE I PPP-P-115 OR EQUAL
-3	4	SADDLES	1½ X 4½ X 13	
-2	8	CLEATS	1 X 3 (NOM) X 9	
-1	2	BLOCKS	1 X 3 X (NOM) X 13	WOOD CLASS 2 MIL-STD-731

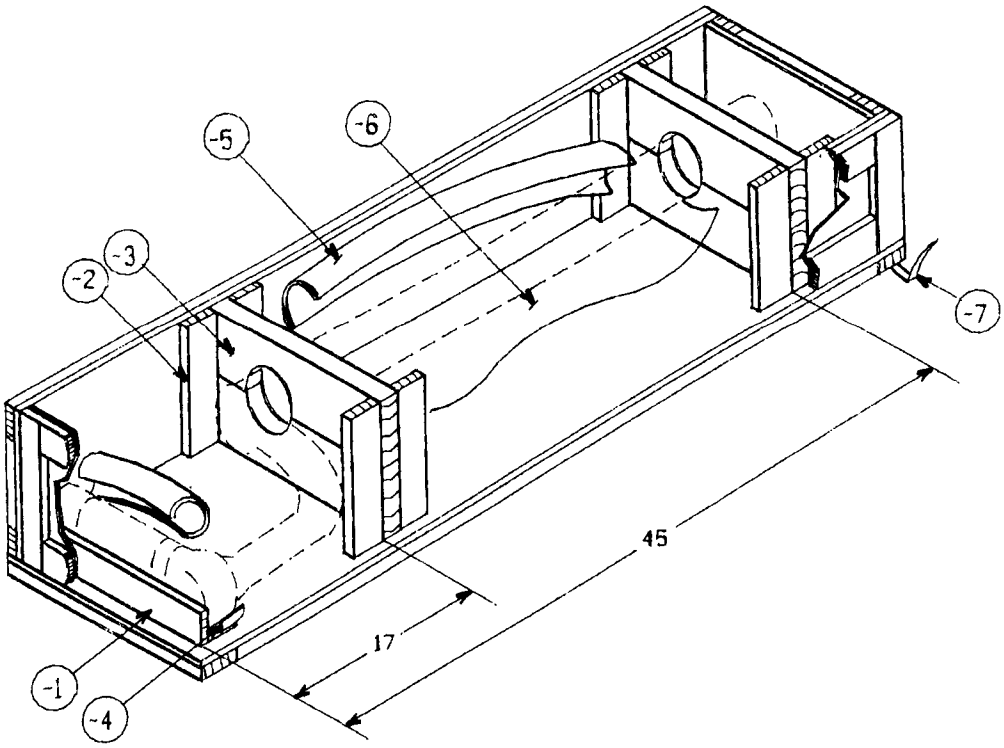
SPI NO. 01-023-2138

SPECIAL PACKAGING INSTRUCTION (CONTINUATION SHEET)	CODE ID 76301	SPI NO. (TPO) 01-023-2138
ITEM NOMENCLATURE PISTON		SHEET 2 OF 2





DETAIL OF SADDLES
SHOWING CHAFFING STRIP



SPECIAL PACKAGING INSTRUCTION

CODE ID	SPI NO. (TPO)
98747	F01-235-2271
	SHEET 1 OF 3

PART OR DRAWING NO.	NATIONAL STOCK NO.	CURRENT REV
68A412704-1002	1620-01-235-2271	A

ITEM NOMENCLATURE
PISTON, MLG, F-15

ORIGINAL DATE
95131

ILL. T. LUCERO
CHK. T. ZIMMERMAN
ENGR. M. STEPHENS
AUTH. P. FRANCIS

MILITARY PRESERVATION IAW MIL-STD-2073

SERVICEABLE METHOD: 20
UNSERVICEABLE METHOD: 20
QUP 001
ICQ 000
CLEANING & DRYING: IAW MIL-STD-2073
PRESERVATIVE: MIL-PRF-16173, GR2

MARKING IAW MIL-STD-129

SPECIAL MARKINGS:
A) SPI NO. F01-235-2271
*MARK THE SPI NUMBER ON ONE SIDE OF THE CONTAINER AND ON ALL REMOVABLE DUNNAGE.

CLOSURE

LEVEL A: IAW: ASTM-D6251
LEVEL B: IAW: ASTM-D6251

PACKING AS SPECIFIED BELOW AND BILL OF MATERIALS

LEVEL	SPEC	STYLE	TYPE	CL	VRTY	GR	TR
A	ASTM-D6251	A1	III	2			B
B	ASTM-D6251	A1	III	1			A

	LEVEL A	LEVEL B
GROSS CU FT	11.156	11.156
GROSS WT LBS	166.80	166.80
DESIGN FRAGILITY G	110	110

	LENGTH	WIDTH	DEPTH
CNTR I.D.	49	19	12 1/2
CNTR O.D.			
LEVEL A	51	21	18
LEVEL B	51	21	18
ITEM DIM	45	14 1/2	9 1/2

ITEM WT LBS 88

REVISIONS		
LTR	DESCRIPTION	DATE
A	UPDATED, ADDED WOOD STATEMENT	03105

P/N	QTY REQD	NOMENCLATURE DESCRIPTION	SIZE (INCHES UNLESS SPECIFIED)	MATERIAL SPECIFICATION REVISIONS
-4	1	CUSHION (CENTER)	49 X 19 X 8	MIL-PRF-26514 TYPE 1, CLASS 1, GR A, FIN 1
-3	2	CUSHIONS (TOP & BOTTOM)	49 X 19 X 2	MIL-PRF-26514 TYPE 1, CLASS 1, GR A, FIN 1
-2	1	WRAP	50 X 50	A-A-3174, TYPE I, CLASS 1, GRADE A, FIN 1
-1	3	SKIDS	21 X 4 (NOM) X 4	ASTM-D6199 CLASS 2, GROUP 1

SPI NO. F01-235-2271

DD FORM MARCH 87 2169 MOD

COMPUTER GENERATED

SPECIAL PACKAGING INSTRUCTION	CODE J 98747	SPI NO. (TPO) F01-235-2271
ITEM NOMENCLATURE PISTON, MLG, F-15		SHEET 2 OF 3

EUROPEAN UNION (EU) REQUIREMENTS NOTICES

NOTICE 1: LUMBER AND PACKAGING/CONTAINER STATEMENT – "ALL WOODEN LUMBER CONTAINERS PRODUCED ENTIRELY OR IN PART OF NON-MANUFACTURED SOFTWOOD SPECIES SHALL BE CONSTRUCTED FROM HEAT TREATED (HT) MATERIAL (HT TO 56 DEGREES CENTIGRADE OR 133 DEGREES FAHRENHEIT FOR 30 MINUTES). CERTIFICATION IS REQUIRED BY AN ACCREDITED AGENCY RECOGNIZED BY THE AMERICAN LUMBER STANDARDS COMMITTEE (ALSC). CONSTRUCTION AND CERTIFICATION SHALL BE IN ACCORDANCE WITH NON-MANUFACTURED WOOD PACKING POLICY AND NON-MANUFACTURED WOOD PACKING ENFORCEMENT REGULATIONS, BOTH DATED MAY 30, 2001." THESE DOCUMENTS CAN BE FOUND AT WWW.APHIS.USDA.GOV.

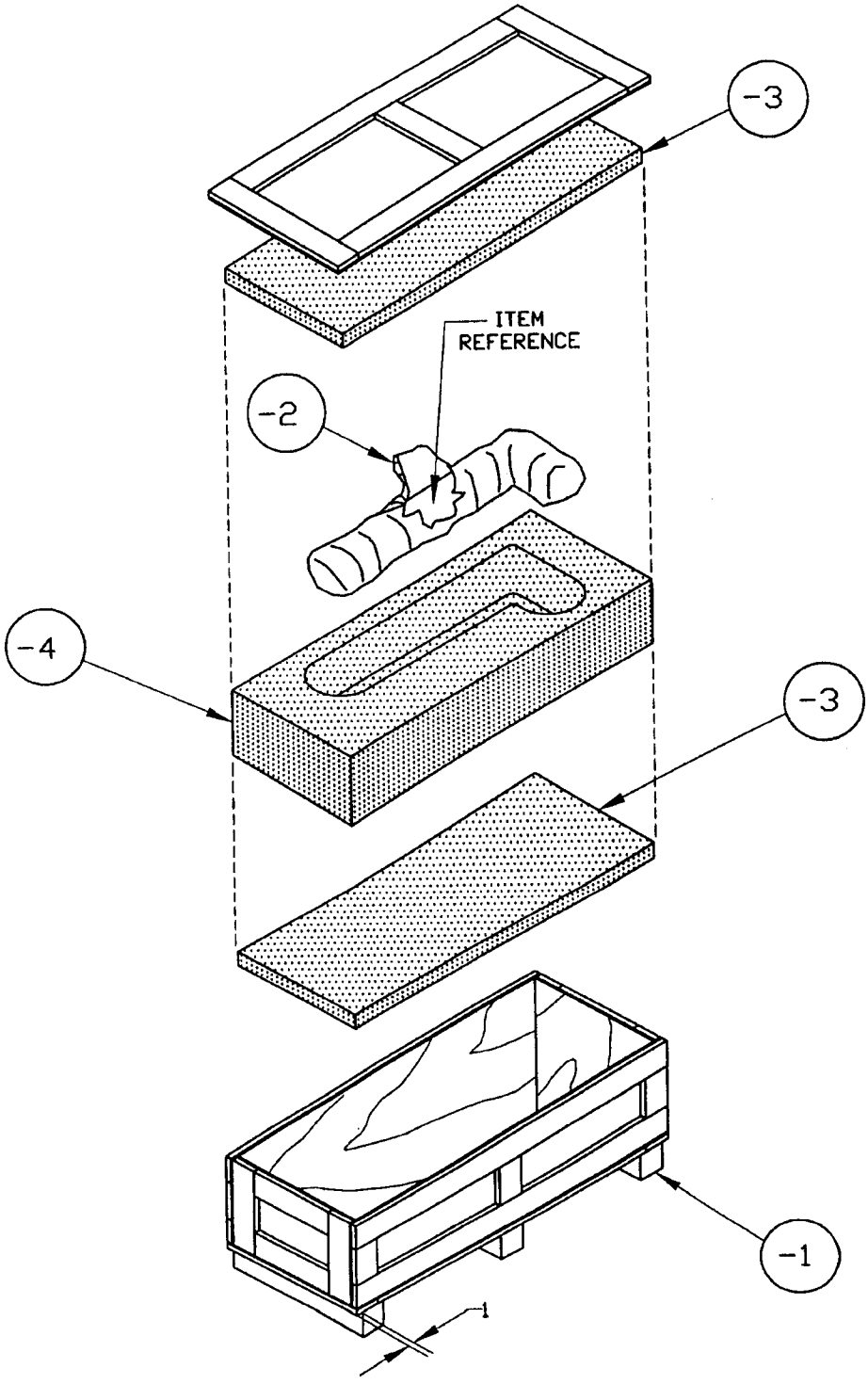
NOTICE 2: WOODEN PALLET STATEMENT – "ALL WOODEN PALLETS PRODUCED ENTIRELY OR IN PART OF NON-MANUFACTURED SOFTWOOD SPECIES SHALL BE CONSTRUCTED FROM HEAT TREATED (HT) MATERIAL (HT TO 56 DEGREES CENTIGRADE OR 133 DEGREES FAHRENHEIT FOR 30 MINUTES). CERTIFICATION IS REQUIRED BY AN ACCREDITED AGENCY RECOGNIZED BY THE AMERICAN LUMBER STANDARDS COMMITTEE (ALSC). CONSTRUCTION AND CERTIFICATION SHALL BE IN ACCORDANCE WITH NON-MANUFACTURED WOOD PACKING POLICY AND NON-MANUFACTURED WOOD PACKING ENFORCEMENT REGULATIONS, BOTH DATED MAY 30, 2001." THESE DOCUMENTS CAN BE FOUND AT WWW.APHIS.USDA.GOV.

NOTICE 3: HARDWOOD SPECIES STATEMENT – "ALL WOODEN PALLETS PRODUCED ENTIRELY OF NON-MANUFACTURED HARDWOOD SPECIES SHALL BE IDENTIFIED BY A PERMANENT MARKING OF "NC" (NON-CONIFEROUS), 1.25 INCHES OR GREATER IN HEIGHT, ACCOMPANIED BY THE CAGE CODE OF THE CONTRACTED MANUFACTURER AND THE MONTH AND YEAR OF THE CONTRACT. ON PALLETS, THE MARKING SHALL BE APPLIED TO THE STRINGER OR BLOCK ON OPPOSITE SIDES AND ENDS OF THE PALLET AND BE CONTRASTING AND CLEARLY VISIBLE."

NOTES:

1. USE MIL-C-16173, GRADE 2 ON CRITICAL SURFACES. WRAP ENTIRE ITEM IN REF.-2.
2. CUT REF.-4 TO SHAPE OF PISTON CENTERED ON CUSHION. PLACE WRAPPED ITEM INTO CUT OUT. REF.-4. INSERT INTO CONTAINER AS ILLUSTRATED.
3. SKIDS INSET ONE INCH EACH END WITH SKIDS RUNNING THE WIDTH OF THE CONTAINER, CENTER SKID.

SPECIAL PACKAGING INSTRUCTION	CODE ID 98747	SPI NO. (TPO) F01-235-2271
ITEM NOMENCLATURE PISTON, MLG, F-15		SHEET 3 OF 3



DD FORM MARCH 87 2169 MOD

COMPUTER GENERATED

SPECIAL PACKAGING INSTRUCTION

CODE ID	SPI NO. (TPO)
98747	F01-235-2273
	SHEET 1 OF 3

PART OR DRAWING NO.	NATIONAL STOCK NO.	CURRENT REV
68A412704-1001	1620-01-235-2273	A

ITEM NOMENCLATURE: PISTON, MLG, F-15E

ORIGINAL DATE: 90094

ILL. C. CHARBONEAU C. Charboneau
CHK. T. ZIMMERMAN T. Zimmerman
ENGR. M. STEPHENS M. Stephens
AUTH. P. FRANCIS P. Francis

MILITARY PRESERVATION IAW MIL-STD-2073

SERVICEABLE METHOD: 20
UNSERVICEABLE METHOD: 20

QUP 001
ICQ 000

CLEANING & DRYING: IAW MIL-STD-2073

PRESERVATIVE: MIL-C-16173, GRADE 2

MARKING IAW MIL-STD-129

SPECIAL MARKINGS:

A) SPI NO. F01-235-2273
*MARK THE SPI NUMBER ON ONE SIDE OF THE CONTAINER AND ON ALL REMOVABLE DUNNAGE.

CLOSURE

LEVEL A: IAW ASTM-D6251
LEVEL B: IAW ASTM-D6251

SEE NOTES PAGE 2.

PACKING AS SPECIFIED BELOW AND BILL OF MATERIALS

LEVEL	SPEC	STYLE	TYPE	CL	VRTY	GR	TR
A	ASTM-D6251	A	III	2			B
B	ASTM-D6251	A	III	1			A

	LEVEL A	LEVEL B
GROSS CU FT	8.521	8.521
GROSS WT LBS	148	148
DESIGN FRAGILITY G	100	100

	LENGTH	WIDTH	DEPTH
CNTR I.D.	48	17	11
CNTR O.D.			
LEVEL A:	50	19	15 1/2
LEVEL B:	50	19	15 1/2
ITEM DIM	45 1/2	17	7 1/2
ITEM WT.	89 LBS.		

REVISIONS		
LTR	DESCRIPTION	DATE
A	ADD WOOD STATEMENT & UPDATE SPECS	03120

P/N	QTY REQD	NOMENCLATURE DESCRIPTION	SIZE (INCHES UNLESS SPECIFIED)	MATERIAL SPECIFICATION
-7	2	CHAFFING STRIPS	15 X 3	PPP-P-115 TYPE 1
-6	1	SADDLE	2 X 6 (NOM) X 16 7/8	ASTM-D6199 GROUP 1, CLASS 2
-5	1	SADDLE	2 X 6 (NOM) X 16 7/8	ASTM-D6199 GROUP 1, CLASS 2
-4	2	SADDLES	2 X 6 (NOM) X 16 7/8	ASTM-D6199 GROUP 1, CLASS 2
-3	8	IN SIDE CLEATS	1 X 3 (NOM) X 10 3/4	ASTM-D6199 GROUP 1, CLASS 2
-2	1	WRAP	AS REQUIRED	A-A-3174 TYPE 1, CLASS 1, GRADE A, FINISH 1
-1	3	SKIDS	3 X 4 (NOM) X 19	ASTM-D6199 GROUP 1, CLASS 2

SPI NO. F01-235-2273

SPECIAL PACKAGING INSTRUCTION	CODE ID 98747	SPI NO. (TPO) F01-235-2273
ITEM NOMENCLATURE PISTON, MLG, F-15E		SHEET 2 OF 3

EUROPEAN UNION (EU) REQUIREMENTS NOTICES

NOTICE 1: LUMBER AND PACKAGING/CONTAINER STATEMENT – "ALL WOODEN LUMBER CONTAINERS PRODUCED ENTIRELY OR IN PART OF NON-MANUFACTURED SOFTWOOD SPECIES SHALL BE CONSTRUCTED FROM HEAT TREATED (HT) MATERIAL (HT TO 56 DEGREES CENTIGRADE OR 133 DEGREES FAHRENHEIT FOR 30 MINUTES). CERTIFICATION IS REQUIRED BY AN ACCREDITED AGENCY RECOGNIZED BY THE AMERICAN LUMBER STANDARDS COMMITTEE (ALSC). CONSTRUCTION AND CERTIFICATION SHALL BE IN ACCORDANCE WITH NON-MANUFACTURED WOOD PACKING POLICY AND NON-MANUFACTURED WOOD PACKING ENFORCEMENT REGULATIONS, BOTH DATED MAY 30, 2001." THESE DOCUMENTS CAN BE FOUND AT WWW.APHIS.USDA.GOV.

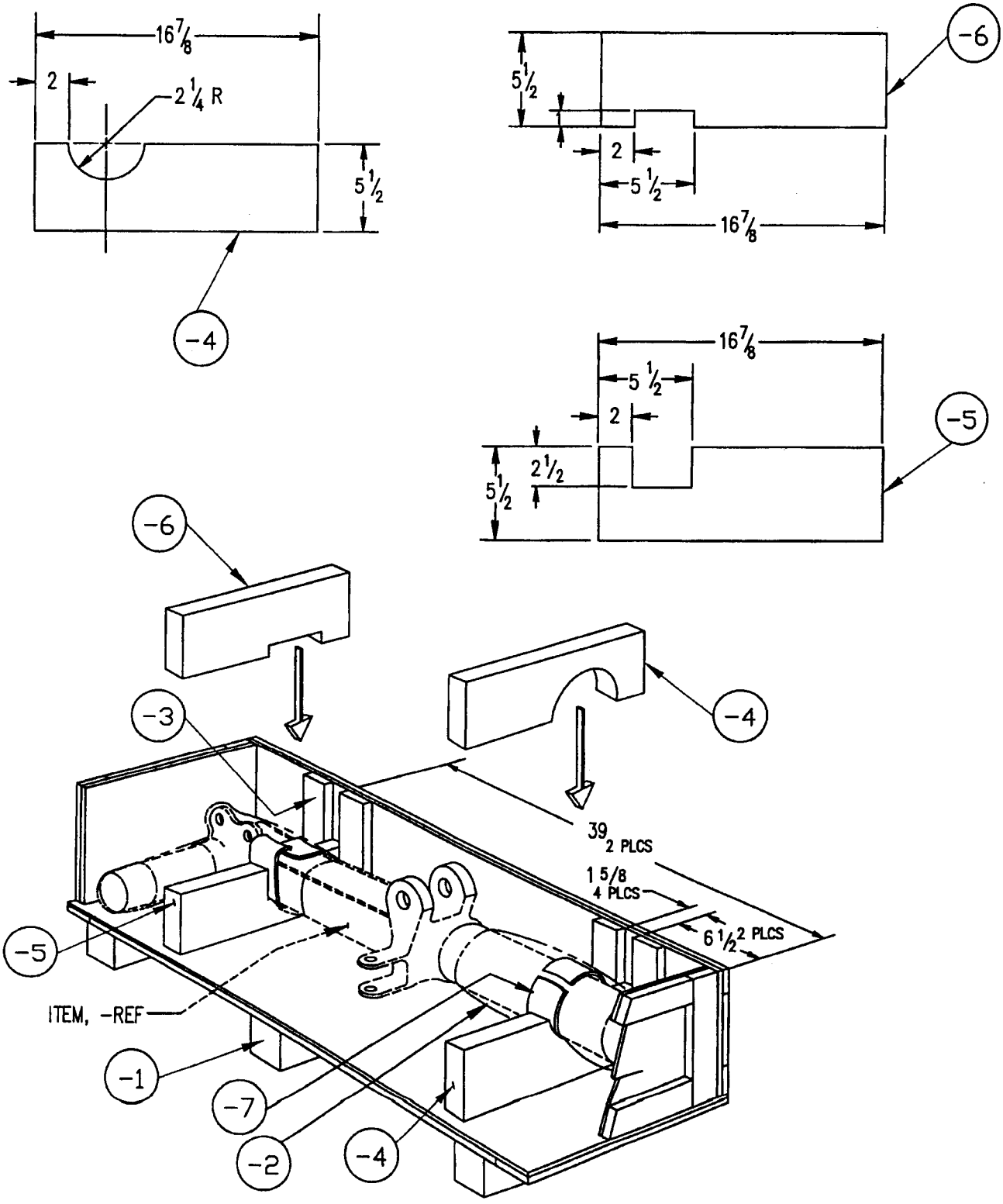
NOTICE 2: WOODEN PALLET STATEMENT – "ALL WOODEN PALLETS PRODUCED ENTIRELY OR IN PART OF NON-MANUFACTURED SOFTWOOD SPECIES SHALL BE CONSTRUCTED FROM HEAT TREATED (HT) MATERIAL (HT TO 56 DEGREES CENTIGRADE OR 133 DEGREES FAHRENHEIT FOR 30 MINUTES). CERTIFICATION IS REQUIRED BY AN ACCREDITED AGENCY RECOGNIZED BY THE AMERICAN LUMBER STANDARDS COMMITTEE (ALSC). CONSTRUCTION AND CERTIFICATION SHALL BE IN ACCORDANCE WITH NON-MANUFACTURED WOOD PACKING POLICY AND NON-MANUFACTURED WOOD PACKING ENFORCEMENT REGULATIONS, BOTH DATED MAY 30, 2001." THESE DOCUMENTS CAN BE FOUND AT WWW.APHIS.USDA.GOV.

NOTICE 3: HARDWOOD SPECIES STATEMENT – "ALL WOODEN PALLETS PRODUCED ENTIRELY OF NON-MANUFACTURED HARDWOOD SPECIES SHALL BE IDENTIFIED BY A PERMANENT MARKING OF "NC" (NON-CONIFEROUS), 1.25 INCHES OR GREATER IN HEIGHT, ACCOMPANIED BY THE CAGE CODE OF THE CONTRACTED MANUFACTURER AND THE MONTH AND YEAR OF THE CONTRACT. ON PALLETS, THE MARKING SHALL BE APPLIED TO THE STRINGER OR BLOCK ON OPPOSITE SIDES AND ENDS OF THE PALLET AND BE CONTRASTING AND CLEARLY VISIBLE."

NOTES

1. WRAP PRESERVED AREAS IN REF -2 AND SECURE WITH TAPE CONFORMING TO A-A-883, TYPE II OR EQUAL.
2. WRAP CHAFFING STRIP, REF -7, AROUND ITEM WHERE IT WILL CONTACT THE SADDLES AND SECURE WITH TAPE CONFORMING TO A-A-883, TYPE II OR EQUAL.

SPECIAL PACKAGING INSTRUCTION	CODE ID 98747	SPI NO. (TPO) F01-235-2273
ITEM NOMENCLATURE PISTON, MLG, F-15E		SHEET 3 OF 3



SPECIAL PACKAGING INSTRUCTION

CODE ID	SPI NO. (TPO)
98747	F01-252-4042
	SHEET 1 OF 2

PART OR DRAWING NO.	NATIONAL STOCK NO.	CURRENT REV
2007602-103	1620-01-252-4042	B

ITEM NOMENCLATURE
PISTON ASSEMBLY

ORIGINAL DATE 89167

ILL. T. LUCERO
CHK. T. ZIMMERMAN
ENGR. K.W. OLSON
AUTH. A. BRIMHALL FOR

MILITARY PRESERVATION IAW MIL-STD-2073
SERVICEABLE METHOD 20
UNSERVICEABLE METHOD 20

QUP 001

ICQ 000

CLEANING & DRYING IAW MIL-STD-2073

PRESERVATIVE MIL-PRF-16173, GR 2, CODE 02

MARKING IAW MIL-STD-129
SPECIAL MARKINGS:
A) SPI NO. F01-252-4042

MARK THE SPI NUMBER ON ONE SIDE OF THE CONTAINER AND ON ALL REMOVABLE DUNNAGE.
MARK REUSABLE CONTAINER DO NOT DESTROY

CLOSURE IAW PPP-B-621

CAUTION NOTICE

1. THIS PISTON HAS A HISTORY OF CORROSION. INSURE THE PRESERVATIVE IS APPLIED AS INSTRUCTED IN NOTE 1.

NOTES:

1. APPLY MIL-PRF-16173, GRADE 2 PRESERVATIVE ON ALL BARE METAL SURFACES, INCLUDING INSIDE HOLLOW TUBE OF THE PISTON ASSEMBLY. INSURE ALL SURFACES ARE COMPLETELY COVERED. WRAP PRESERVED EXPOSED SURFACES WITH -5 AND SECURE IN PLACE WITH A-A-883 TAPE OR EQUAL.

PACKING AS SPECIFIED BELOW AND BILL OF MATERIALS

LEVEL	SPEC	STYLE	TYPE	CL	VRTY	GR
A	PPP-B-621 (MOD)	4		2		A
B	PPP-B-621 (MOD)	4		1		B

	LEVEL A	LEVEL B
GROSS CU FT	2.474	2.474
GROSS WT LBS	54	54
DESIGN FRAGILITY G	100	100

	LENGTH	WIDTH	DEPTH
CNTR I.D.	35	11	8
CNTR O.D.	38	12 1/2	9
ITEM DIM	32	9	5 1/2
ITEM WT LBS	31		

REVISIONS		
LTR	DESCRIPTION	DATE
A	ADD NOTES & UPDATE	99129
B	UPDATE/ADD WOOD STATEMENT	01320

2. SOURCE OF SUPPLY FOR TORQUE WASHERS, CATALOG NO. MS-98398K2915:
TRW FASTENER DIV.
31 AMES ST.
CAMBRIDGE, MASS. 02142, OR LOCAL PURCHASE

3. PISTONS PACKED IN PREVIOUS ADDITIONS OF THIS SPI DO NOT REQUIRE REPACKING IF THE INTEGRITY OF THE SPI IS NOT COMPROMISED.

NOTICE 1: TRAFFIC MANAGEMENT OFFICES OR ANY ACTIVITY BUYING SOLID WOOD MATERIAL TO USE FOR BUILDING OR ASSEMBLING PACKAGING MUST COMPLY WITH THE FOLLOWING REQUIREMENT FOR PURCHASING THE WOOD: "ALL WOODEN PALLETS AND WOOD CONTAINERS PRODUCED OF NON-MANUFACTURED WOOD SHALL BE CONSTRUCTED FROM HEAT TREATED (HT TO 56 DEGREES CENTIGRADE FOR 30 MINUTES) MATERIAL AND CERTIFIED BY AN ACCREDITED AGENCY RECOGNIZED BY THE AMERICAN LUMBER STANDARDS COMMITTEE (ALSC) IN ACCORDANCE WITH NON-MANUFACTURED WOOD PACKING POLICY AND NON-MANUFACTURED WOOD PACKING ENFORCEMENT REGULATIONS BOTH DATED MAY 30, 2001." THESE DOCUMENTS CAN BE FOUND AT WWW.APHIS.USDA.GOV.

P/N	QTY REQD	NOMENCLATURE OR DESCRIPTION	SIZE (INCHES UNLESS SPECIFIED)	MATERIAL SPECIFICATION	
-12	A/R	TAPE	1 X A/R	A-A-883	TYPE I OR II
-11	6	NUTS	3/8	FF-N-836	TYPE II, STYLE 4
-10	6	WASHERS	3/8	FF-W-92	TYPE A, GRADE I, CLASS A
-9	6	TORQUE WASHERS	to fit 3/8 BOLT	5310-00-936-9532	(SEE NOTE 2)
-8	6	BOLTS	3/8 X 5	FF-B-584	TYPE I, CLASS 1, STYLE A
-7	3	STRAPPING	A/R X 1 1/4 X .035	ASTM-D3953	TYPE I, REG DUTY, FIN B
-6	3	CUSHIONING	A/R X 3 X 1/4	PPP-PRF-115	TYPE I (CARGO PACK)
-5	1	WRAP	20 X 12	MIL-PRF-121	TYPE I, GRADE A, CLASS 1
-4	1	WRAP	8 X 8	MIL-PRF-121	TYPE I, GRADE A, CLASS 1
-3	2	SADDLES	2 X 4 (NOM) X 8	ASTM-D6199	CLASS 2
-2	1	SADDLE	2 X 4 (NOM) X 7	ASTM-D6199	CLASS 2
-1	2	TOP & BOTTOM	36 1/2 X 12 1/2 X 1/2	A-A-55057	TYPE A

SPI NO. F01-252-4042

DD FORM MARCH 87 2169 MOD

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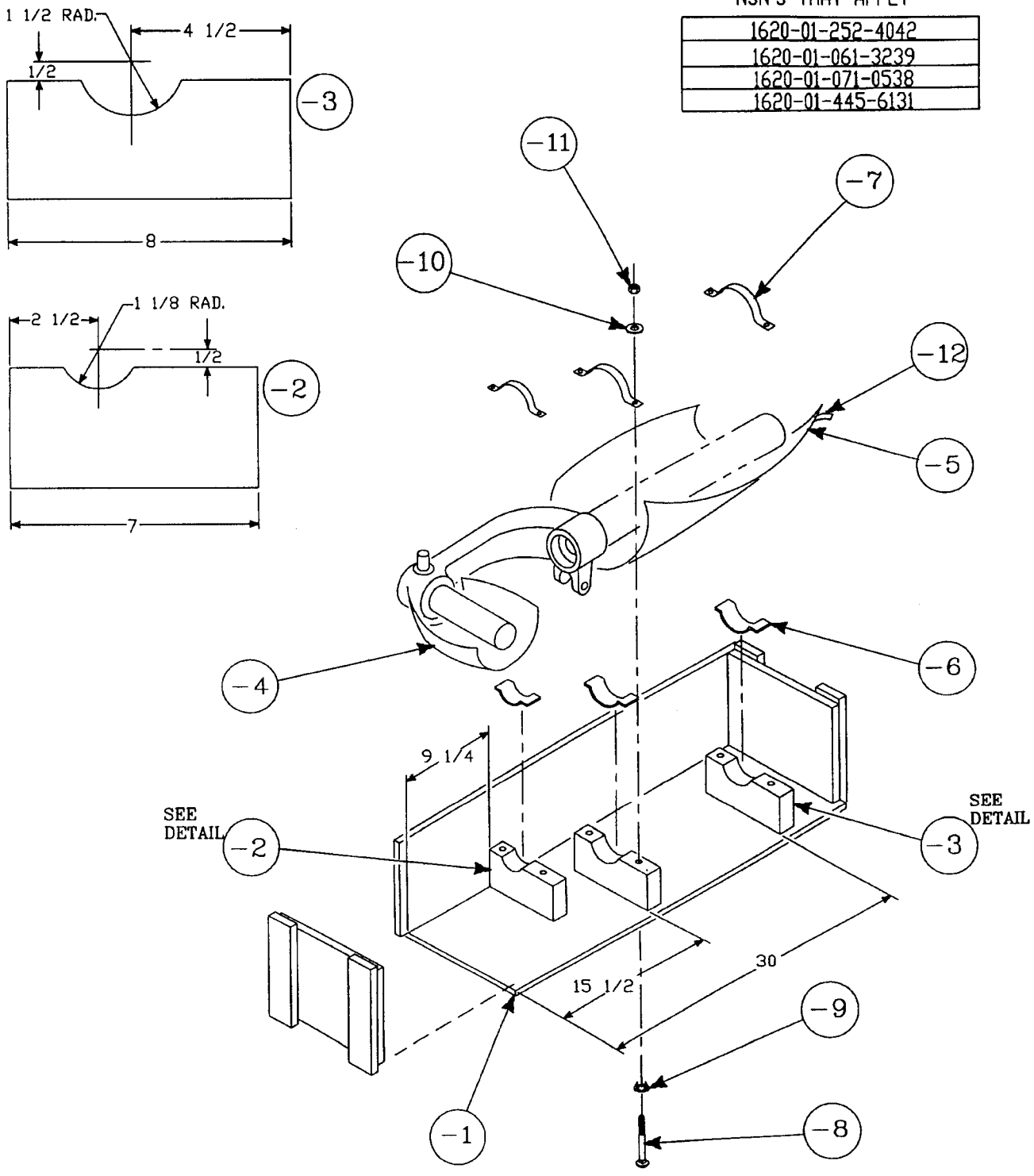
SPECIAL PACKAGING INSTRUCTION	CODE ID 98747	SPI NO. (TPO) F01-252-4042
ITEM NOMENCLATURE PISTON ASSEMBLY		SHEET 2 OF 2

NSN'S THAT APPLY

1620-01-252-4042
1620-01-061-3239
1620-01-071-0538
1620-01-445-6131



DD FORM 2169 MOD

COMPUTER GENERATED

REVISION: *01*

ENGINEERING DATA LIST

* HISTORY *

DATE :	DATA TECH :	ORGN SYMBOL :	PR NR :	APPLICATION:	PAGE
08MAR02	SDD	LGMPM		B-1B	1 OF 1

CAGE:	MANUFACTURER NAME:	REFERENCE NR:	NOUN :	NSN :
13002	GOODRICH	1881B4	PISTON,LANDING GEAR	1620011670942

CAGE	DRAWING NUMBER		REV	NR SHEETS	NR CARDS	FURN CODE	DIST CODE	NOUN	REQUIREMENTS
13002	1881B4	/	H	0001	0000	S		PISTON ASSEMBLY	
13002	01-89	/	H1	0002	0000	S		ECO	
13002	1881B4	/	D	0001	0000	S		PISTON FORGING	
13002	1881-204	/	E	0001	0000	S		BUSHING	
13002	1881B53	/	A	0001	0000	S		BUSHING	
13002	1881B52	/	A	0001	0000	S		BUSHING	
13002	1881B352	/	A	0001	0000	S		BUSHING	
98747	OO-ALC/LGMPM	/		0004	0000	S		ENGR DATA REQMTS ATTACH "A"	

STANDARD ENGINEERING TEXT

ENGINEERING DATA LIST REMARKS

FURNISHED METHOD CODE LEGEND:

C - CLASSIFIED DOCUMENT.
S - FURNISHED WITH SOLICITATION.
M - STABLE BASE DRAWING REQUIRED; FURNISHED WITH CONTRACT AWARD.
X - DATA SUPPLIED (NOT IN EDCARS).
R - FURNISHED BY PCD UPON REQUEST.
P - PARTIAL DOCUMENT FURNISHED.
V - VENDOR DRAWING; (NOT PROVIDED).
G - GOV'T DOCUMENT.
O - OTHERS, CONTRACTOR MUST ACQUIRE.
A - DATA NOT AVAILABLE.

REV:	ENGINEERING DATA REQUIREMENTS (ATTACHMENT "A")

NOTE: MILITARY SPECIFICATIONS I/STANDARDS WILL NOT BE FURNISHED IN THE BID SET.

1. THE FOLLOWING INSTRUCTIONS ARE FURNISHED FOR THE MANUFACTURE OF

Piston Assembly, MLG, B-1B ACFT

2. PART NUMBER	3. NATIONAL STOCK NUMBER
1881B4	1620 01 167 0942

4. THE FOLLOWING SPECIFICATIONS/STANDARDS, ETC., WILL BE USED IN LIEU OF THE DATA INDICATED. THE SUPERSEDED DATA WILL NOT BE FURNISHED UNLESS SO INDICATED.

5. OO-ALC/LILE System Engineering retains all rights to review and accept/reject MRB's prior to shipment of discrepant items. All deviations, minor or major, from the Engineering Drawing Package will be submitted for MRB disposition.

6. Prior to contract award, the contractor will certify to the government in writing, full compliance with manuals, specifications, and standards called out and required for the manufacture of this contracted landing gear component/assembly. Contractor is responsible to completely search these manuals, specifications, and standards and fully understand the requirements necessary to manufacture landing gear components. Any questions can be forwarded to this office OO-ALC/LILE.

7. After contract award the successful bidder shall provide a copy of the processing documentation (routing documents and process specifications) to LILE for final review before production begins.

8. Identification and Marking per MIL-STD-130, Impression Stamping Not Permitted, in lieu of CPC 9201.

9. Serial Number shall be vibropeened (with a vibrating pneumatic pencil), in 0.09" letters 0.004"-0,007" deep in the location indicated. If the drawing does not indicate a location, OO-ALC/LILE shall provide S/N location instructions. Serialization of items shall be accomplished as follows: the serialization shall begin with the CAGE (FSCM) of the contractor named on the contract, followed by a dash and the 2 digit year of manufacture, followed by a dash and a sequentially unique 3 digit number. A contractor who receives numerous intermittent contracts shall start serialization of items with the next number in sequence of the prior contract. If a contract produces more than 999 items, the serial number shall begin using a 4 digit serial number. The serial number shall appear like this: "S/N 98747-00-001".

10. Material: 300 M Steel per SAE AMS-S-6419 in lieu of MIL-S-8844, Class 3. (DWG 1881B4-50)

Aluminum Nickel Bronze per SAE AMS 4640 or SAE AMS 4880 (centrifugal) in lieu of AMS 4640 and AMS 4880 respectively. (DWGs 1881-204, 1881B53, 1881B52, 1881B352)

Material Cleanliness per SAE AMS 2300 in lieu of AMS 2300.

11. Reference notes 14/16 on Enineering notice H-1 for Drawing 1881B4. (Preferred Method) Cadmium Titanium Plate as noted per MIL-STD-1500, Type II, in lieu of CPC 8225, Type II. (Alternate Option) LHE Cadmium Plate per MIL-STD-870, Type II, Class 1, in lieu of CPC 8206.

12. Chromium Plate as noted per MIL-STD-1501, Type I or II, Class 3, in lieu of QQ-C-320, Class 2, and CPC 8207, SCN-22.

13. Phosphate Coat as noted per MIL-DTL-16232 in lieu of CPC 8218 after Chrome and Cadmium Plate.

14. Apply one coat of Epoxy Waterborne Primer per MIL-PRF-85582, Type I, Class C2 . Alternate primer, one coat Epoxy- Polymide per MIL-PRF-23377, Type I, in lieu of MIL-P-23377.

Apply two top coats Polyurethane per MIL-PRF-85285, Type I, in lieu of MIL-C-83286, Color #17925 (White) per FED-STD-595.

PREPARED BY	SYMBOL	DATE
Dave Dodd	LGMPM	8 Mar 02

REV:	ENGINEERING DATA REQUIREM CONTINUATION SHEET (ATTACHMENT "A")
PART NUMBER	NATIONAL STOCK NUMBER
1881B4	1620 01 167 0942

15. Perform MAGNETIC PARTICLE INSPECTION per ASTM E1444 in lieu of CPC 9108. Use full wave direct current (FWDC),wet continuous method, fluorescent type. This inspection shall have the following acceptance/rejection criteria: NO DEFECTS ALLOWED. The intent of NO DEFECTS ALLOWED is that the inspection is conducted at the required sensitivity level and there shall be no indications allowed. The inspector performing the inspection will be certified to the Level II with the inspection procedure developed by a Level III as specified in NAS-410.

16. Perform FLORESCENT PENETRANT INSPECTION per ASTM E 1417, Type I, Method B or C, Level 3 or 4 in lieu of MIL-I-6866 with the following acceptance/rejection criteria: NO DEFECTS ALLOWED. The intent of NO DEFECTS ALLOWED is that the inspection is conducted at the required sensitivity level and there shall be no indications allowed The inspector performing the inspection will be certified to the Level II with the inspection procedure developed by a Level III as specified in NAS-410.

17. Ultrasonic Inspection per MIL-STD-2154 in lieu of MIL-I-8950.

18. Heat Treat and Normalize as noted on drawings per SAE AMS-H-6875 in lieu of CPC 6216.

19. On parts heat treated 180 KSI and above, any surface ground/machined after heat treat will be Nital Etch inspected for burns per MIL-STD-867 in lieu of CPC 9106. Grinding will be per MIL-STD-866 in lieu of CPC 6505.

20. Corrosion Control the entire part per MIL-C-16173, Grade 3, in lieu of CPC Spec 8405.

21. For Hole Preparation, drilling, reaming, and honing, use Best Aircraft Industry Shop Practices in lieu of CPC 6506.

22. Shot Peen as noted per SAE AMS-S-13165 in lieu of MIL-S-13165.

23. The following are not required to manufacture: Interchangeable per MIL-I-8500, CPC Spec Control Drawing 1881A8000, R.I. Design Spec L287C2001 and 2036.

24. FORGING REQUIREMENTS:

A. The required forging will be procured from the qualified forging source using the original certified forging procedures and dies/tooling.

1. Prior to contract award the detailed part bidder will provide certification, from the forging source, to the government that the certified dies and forging procedures are available and the forging source has an agreement with the detail part bidder to provide forgings for their use in the event they are the successful bidder.

2. Prior to production, forging lot qualification will be accomplished as specified on the forging drawing and SAE AMS-F-7190 (Steel) in lieu of MIL-F-7190. The contractor will assure that this is or has been accomplished by the forging source and will submit certified documentation of accomplishment to the government.

PREPARED BY	SYMBOL	DATE
Dave Dodd	LGMPM	8 Mar 02

B. FORGING SOURCE, CONTROL AND LOCATION OF DIES:

1. Forging drawing:		1881B4-50
Die number:		Unknown
2. Control of forging processes:	Phone #(216) 429-4112	BF Goodrich (13002) 8000 Marble Ave. Cleveland, OH 44105
3. Location of forging dies:	Phone#(216) 431-2900	Park Drop Forge 777 E 79th ST Cleveland, OH 44103

23. Install Bushings per the following in lieu of CPC 7303:

A. The bushing installations shall be accomplished in such a manner as to avoid damage to the finish on the I.D. of the housing into which the bushing is installed, or the finish of the O.D. of the bushing. Forced installation of sub-zero installations, such as the use of a press or hammer is not permitted, and is not acceptable. A small non-metallic hammer may be used to tap the bushing into alignment with the housing bore, or to seat the bushing.

B. Prior to bushing installation, the part and housing bore shall be cleaned with a cleaning solvent to remove all contamination.

C. Liquid nitrogen shall be used for all sub-zero installations unless some other sub-zero coolant is specified, and approved by OO-ALC/LILEC Engineering. The soak time of the bushing in the liquid nitrogen shall be sufficient to allow the bushing to reach the same temperature as the coolant.

D. The bushing shall be installed into the housing immediately upon removal from the coolant with an absolute minimum of lost time. Trial runs shall be accomplished as necessary to minimize installation time which should be in the order of about seven (7) seconds maximum.

E. In addition to sub-zero cooling of the bushing, it may be occasionally necessary to heat the housing into which the bushing is to be installed Detailed parts in the process, which do not have paint or sealant or other organic material applied prior to heating, shall be heated by the use of radiant heat techniques, such as thermal blankets, infrared lamps etc.; to the maximum temperature of 250 F. The temperature measuring devices shall be used to monitor heat and shall be located on areas of the part expected to reach maximum temperature. No scaling, oxidation, or corrosion shall be permitted.

F. Bushings without flanges shall be installed into housing bore which has received a light coat of sealant per MIL-PRF-81733. Install shrunken bushing and wipe off any excess sealant that may have extruded around the periphery of both ends of the bushing.

REV:	ENGINEERING DATA REQUIREM , CONTINUATION SHEET *(ATTACHMENT "A")*

PART NUMBER	NATIONAL STOCK NUMBER
1881B4	1620 01 167 0942

G. Bushings with flanges shall be installed in a similar manner as paragraph (F) except sealant shall also be applied to face or lug under flange. Sealant shall be applied in such a manner as to ensure complete coverage of inside face of bushing flange when bushing is installed. Wipe off any excess sealant around periphery of bushing flange forming a bead. Wipe any excess sealant from other end of bushing also.

H. For bushings with external grease grooves, the inside of the lug will be coated with MIL-C-16173 prior to bushing installation and face of lug will be coated with MIL-PRF-81733 per paragraph (G).

PREPARED BY	SYMBOL	DATE
Dave Dodd	LGMPM	8 Mar 02

SOURCE QUALIFICATION REQUIREMENTS
(PL98-525, SECTION 2319)

STOCK NR (NSN)1620-01-167-0942
NOUN: Piston Assembly

PART NUMBER (P/N)1881B4
AIRCRAFT:B-1B

SECTION C

QUALIFICATION REQUIREMENTS THAT MUST BE SATISFIED TO BECOME A QUALIFIED SOURCE:

1. Because of the need for uninterrupted item support to military aircraft systems while keeping with the requirements of PL 98-525, the current acquisition need not and generally will not be delayed to provide an offeror an opportunity to qualify. Normal acquisition practices at OO-ALC should preclude the denial of opportunity to any interested offeror.

2. The offeror must provide a pre-contract award qualification article, which meets the requirements of the engineering drawings, material specifications, and process specifications. However, successful completion of the qualification testing does not guarantee any contract award. If the offeror is deemed qualified and awarded the contract, a post-contract award first ariticle exhibit may be required to verify production capability.

3. The qualification article will be subjected to form, fit, and function verification as well as required testing to assure compliance with data list and other applicable procurement criteria. The qualification article shall demonstrate full compatibility and comparability with existing parts.

4. The required materials will be procured from a qualified source and shall meet the requirements of their respective specifications. The offeror will assure that the supplier has accomplished this and shall submit certified documentation of accomplishment of the above requirements to the purchaser along with the pre-contract award qualification article.

5. The required forgings shall be procured from the qualified forging source using the original certified forging procedures and dies. Forging material and lot qualifications shall be accomplished as required in the specified forging drawing, P/N 1881B4 and specification MIL-F-7190. The offeror shall assure that this is or has been accomplished by the forging source and will submit certified documentation of accomplishment of the above requirements to the government along with the pre-contract award qualification article.

6. The qualification article once submitted will become subject to such testing as deemed necessary by the U.S. Government to prove that the article meets all dimensional, processing and functional requirements. Such testing may result in the destruction of the article. Following completion of necessary testing and evaluation, the article no matter what its condition shall be returned to the contractor or disposed of at his discretion and direction whether it was found acceptable or not.

7. Form verification: The U.S. Government's Quality Verification Center (QVC) will be used to insure compliance with the dimensional requirements of the article. Material and processing compliance will also be verified as required.

8. Fit/function verification: Existing components and government test stands and fixtures will be utilized to verify physical interface and functional performance of articles.

9. Testing for material and process compliance.

(a) Material analysis
(b) Heat treat
(c) Grinding
(d) Plating
(e) Finish
(f) Grain flow
(g) Other

SOURCE QUALIFICATION REQUIREMENTS
(PL98-525, SECTION 2319)

STOCK NR (NSN)1620-01-167-0942 PART NUMBER (P/N)1881B4
NOUN: Piston Assembly AIRCRAFT:B-1B

10. Remarks:

a. Organic verification capabilities exist at OO-ALC.

b. Testing requirements outside organic capabilities will be contracted out.

11. The estimated cost of government testing and evaluation is $5000.

12. Maximum time for testing of the qualification article will not exceed 30 days from receipt at testing agency.

SECTION D

QUALIFICATION WAIVER REQUIREMENTS.

1. An offerer who has had previous experience in the manufacture and qualification of items, which can be correlated with this product, may apply to the design control authority at OO-ALC for a waiver of the above stated qualification requirements.

a. The qualification waiver criteria utilized by the design control authority to perform a qualification analysis are available upon request. The qualification waiver criteria may be used as a guide in preparing the offerer's written input to the design control authority.

b. The burden of proof for written inputs is on the offerer. The design control authority will not pursue authenticity verification of claims made by the offerer of product manufacturing experience with other Government or non-Government agencies. Unsubstantiated claims will not be considered in the waiver analysis process.

c. This waiver will be granted if and only if the design control authority (LILE) can establish the qualifications of the offerer through the evaluation of written inputs from the offerer or from previous knowledge of the offerer's capabilities or from previous experience with the offerer on similar item acquisitions. If there is any doubt about the offerer's capability, the offerer will be required to submit a pre-qualification article. There is no guarantee of qualification by similarity. LILE reserves the right to require a pre-qualification article of all offerers.

2. The current acquisition need not and will not be delayed in order to provide an offerer with an opportunity to meet the requirements for qualification waiver.

3. Maximum time for approval of qualification by similarity will not exceed 15 days.

REVISION: *05*

ENGINEERING DATA LIST

* HISTORY *

DATE :	DATA TECH :	ORGN SYMBOL :	PR NR :	APPLICATION:	PAGE
18APR03	SDD	LGMPM		B-52	1 OF 1

CAGE:	MANUFACTURER NAME:	REFERENCE NR:	NOUN :	NSN :
81205	BOEING CO.	5-71661-503	PISTON,LANDINGGEAR	1620007718827

CAGE	DRAWING NUMBER	REV	NR SHEETS	NR CARDS	FURN CODE	DIST CODE	NOUN	REQUIREMENTS
98747	OO-ALC/LGMPM /		0003	0000	S		ENGR DATA REQMTS ATTACHMENT "A"	
81205	3-80059 /	G	0001	0000	S		AXLE	
81205	4-80076 /	C	0001	0000	S		SHEAR PLUG	
81205	5-36426 /	E	0001	0000	S		INNER CYLINDER FORGING	
81205	5-71661 /	D	0001	0000	S		CYLINDER ASSEMBLY-INNER	
	/8-C-3							DCN
	/83C492							ECO
	/83C827							ECO

STANDARD ENGINEERING TEXT

ENGINEERING DATA LIST REMARKS

FURNISHED METHOD CODE LEGEND:

C - CLASSIFIED DOCUMENT.
S - FURNISHED WITH SOLICITATION.
M - STABLE BASE DRAWING REQUIRED; FURNISHED WITH CONTRACT AWARD.
X - DATA SUPPLIED (NOT IN EDCARS).
R - FURNISHED BY PCD UPON REQUEST.
P - PARTIAL DOCUMENT FURNISHED.
V - VENDOR DRAWING; (NOT PROVIDED).
G - GOV'T DOCUMENT.
O - OTHERS, CONTRACTOR MUST ACQUIRE.
A - DATA NOT AVAILABLE.

REV:	**ENGINEERING DATA REQUIREMENTS** *(ATTACHMENT "A")*

NOTE: MILITARY SPECIFICATIONS I/STANDARDS WILL NOT BE FURNISHED IN THE BID SET.

1. THE FOLLOWING INSTRUCTIONS ARE FURNISHED FOR THE MANUFACTURE OF

Cylinder Assembly-Inner, Tip Protection Gear, B-52 ACFT

2. PART NUMBER	3. NATIONAL STOCK NUMBER
5-71661-503	1620 00 771 8827

4. THE FOLLOWING SPECIFICATIONS/STANDARDS, ETC., WILL BE USED IN LIEU OF THE DATA INDICATED. THE SUPERSEDED DATA WILL NOT BE FURNISHED UNLESS SO INDICATED.

5. OO-ALC/LGHLEN System Engineering retains all rights to review and accept/reject MRB's prior to shipment of discrepant items. All deviations, minor or major, from the Engineering Drawing Package will be submitted for MRB disposition.

6. Prior to contract award, the contractor will certify to the government in writing, full compliance with manuals, specifications, and standards called out and required for the manufacture of this contracted landing gear component/assembly. Contractor is responsible to completely search these manuals, specifications, and standards and fully understand the requirements necessary to manufacture landing gear components. Any questions can be forwarded to this office OO-ALC/LGHLEN.

7. After contract award the successful bidder shall provide a copy of the processing documentation (routing documents and process specifications) to LGHLEN for final review before production begins.

8. Identification and Marking per MIL-STD-130, impression stamping not permitted, in lieu of BAC 5307.

9. Drawing 2-5000, BACD 2041, BAC 5602, BAC 5004, and MIL-H-6088 are not required to manufacture this item.

10. Threads per MIL-S-7742, Safety Critical.

11. Perform MAGNETIC PARTICLE INSPECTION per ASTM E1444 in lieu of MIL-I-6868. Use full wave direct current (FWDC), wet continuous method, fluorescent type. This inspection shall have the following acceptance/rejection criteria: NO DEFECTS ALLOWED. The intent of NO DEFECTS ALLOWED is that the inspection is conducted at the required sensitivity level and there shall be no indications allowed. The inspector performing the inspection will be certified to the Level II with the inspection procedure developed by a Level III as specified in NAS-410.

12. Heat Treat per SAE AMS-H-6875 in lieu of BAC 5601.

13. On parts heat treated 180 KSI and above, any surfaces ground/machined after heat treat will be inspected for burns per MIL-STD-867. Grinding will be per MIL-STD-866.

14. The following finish codes apply to the manufacture of this item:

A. F 1.10 Apply no finish except that temporary coatings may be applied as required for protection during handling, transportation, and storage.

B. F 1.20 Cadmium Plate per MIL-STD-870, Class 1, Type II. Option F 1.205 not allowed.

C. F 1.60 Cadmium Plate per MIL-STD-870, Class 1, Type II. Apply 2 Primer Coats Epoxy-Polyamide per MIL-PRF-23377 to Interior Surfaces excluding the Axle Hole. Option F 1.65 not allowed.

D. F1.61 Cadmium Plate per MIL-STD-870, Type III, Class 2, exterior surfaces, single plate thickness .003"-.005" except as noted. Apply two primer coats epoxy-polymide per MIL-PRF-23377 to interior surfaces.

PREPARED BY	SYMBOL	DATE
Dave Dodd	LGMPM	17 Apr 03

E. F 1.90 Chromium Plate to drawing specified thickness to meet the requirements of QQ-C-320, Class 2.

F. F12.46 Assemble with wet primer TT-P-1757 on faying surfaces.

15. Apply one coat Epoxy-Polyamide primer per MIL-PRF-23377, followed with two top coats polyurethane per MIL-PRF-85285, Type 1, color # 17925 (White) per FED-STD-595 to the exterior surfaces of P/N 5-36426-2 excluding the Axle Hole.

16. Use SAE AMS 6484 for 4340 Steel in lieu of MIL-S-5000. (DWG 5-36426 & 3-80059)

17. Use SAE AMS 6382 for 4140 Steel in lieu of MIL-S-5626. (DWG 4-80076 & 3-80059)

18. Use SAE AMS 6280 for 8630 Steel in lieu of MIL-S-6050. (DWG 4-80076)

19. Machine using Best Aircraft Industry Shop Practices in lieu of BACD 2097.

20. DRILLING, REAMING, and HONING to meet drawing specifications, using best shop procedures and the following notes:

A. High speed steel (HSS) drills shall be used to drill corrosion resistant steel.

B. HSS reamers will be used for rough reaming, and final reaming of steels heat treated below 200 KSI. Carbide or premium grade hi-speed steel tipped reamers will be used for rough reaming of steels heat treated above 200 KSI.

C. Honing stones shall be of 150 to 500 aluminum oxide grit with a medium-hard bond and preferably a multi-head stone. Heads with steel shoes or wipers shall not be used.

D. Drilling shall never be used as a final machining operation. A minimum of 0.015 inch on diameter shall be left for final reaming. Holes shall be finished by reaming or boring. When jigs, fixtures, or bushings are not used for drilling holes larger than 1/4 inch, the holes will be piloted with a center drill. Chemical, electrical, or electrochemical hole producing methods shall not be used as a final surface producing method without prior approval from OO-ALC/LGHLEN.

E. Rough reaming, the reamer length shall be as short as consistent with required penetration. Final reaming, the diametral cut shall produce a hole that meets the requirements of the engineering drawing.

F. Honing shall be used as a final operation where a surface finish better than 125 roughness height ratio is required and cannot be produced by other means.

G. Carbide drills can be operated at higher speeds than HSS drills, but must be used with caution. They must not be used in a dull or chipped condition.

REV:	ENGINEERING DATA REQUIREMENTS CONTINUATION SHEET *(ATTACHMENT "A")*

PART NUMBER	NATIONAL STOCK NUMBER
5-71661-503	1620 00 771 8827

21. FORGING REQUIREMENTS:

A. The required forging will be procured from the qualified forging source using the original certified forging procedures and dies/tooling.

1. Prior to contract award the detailed part bidder will provide certification, from the forging source, to the government that the certified dies and forging procedures are available and the forging source has an agreement with the detail part bidder to provide forgings for their use in the event they are the successful bidder.

2. Prior to production, forging lot qualification will be accomplished as specified on the forging drawing and SAE AMS-F-7190 (Steel). The contractor will assure that this is or has been accomplished by the forging source and will submit certified documentation of accomplishment to the government.

B. FORGING SOURCE, CONTROL AND LOCATION OF DIES:

1. Forging drawing: Boeing Aircraft Co. 5-36426-2
   Die number: Unknown

2. Control of forging processes: Unknown

3. Location of forging dies: Unknown

C. INSTRUCTIONS FOR QUALIFICATION OF NEW FORGING SOURCE:

1. Prior to contract award, the contractor will advise the government in writing of their intent to procure new forging dies and the proposed forging source. The contractor will not proceed to obtain new dies without the express consent of the government procuring agency. The government will have unlimited use of the dies developed under this contract. The contractor will inform the forging house in writing, at the same time the order for the dies is placed, that the government has unlimited use rights of the dies and forward a copy of this letter to the Contracting Officer.

22. Use NSN : 5310 01 073 8613, PN : AN365-428, CAGE : 88044, Self Locking Nut in lieu of BAC-N10BY-54W.

PREPARED BY	SYMBOL	DATE
Dave Dodd	LGMPM	17 Apr 03

SOURCE QUALIFICATION REQUIREMENTS
(PL98-525, SECTION 2319)

STOCK NR (NSN)1620-00-771-8827
NOUN: Inner Cyl Assy-TIP

PART NUMBER (P/N)5-71661-503
AIRCRAFT:B-52

SECTION C

QUALIFICATION REQUIREMENTS THAT MUST BE SATISFIED TO BECOME A QUALIFIED SOURCE:

1. Because of the need for uninterrupted item support to military aircraft systems while keeping with the requirements of PL 98-525, the current acquisition need not and generally will not be delayed to provide an offeror an opportunity to qualify. Normal acquisition practices at OO-ALC should preclude the denial of opportunity to any interested offeror.

2. The offeror must provide a pre-contract award qualification article, which meets the requirements of the engineering drawings, material specifications, and process specifications. However, successful completion of the qualification testing does not guarantee any contract award. If the offeror is deemed qualified and awarded the contract, a post-contract award first ariticle exhibit may be required to verify production capability.

3. The qualification article will be subjected to form, fit, and function verification as well as required testing to assure compliance with data list and other applicable procurement criteria. The qualification article shall demonstrate full compatibility and comparability with existing parts.

4. The required materials will be procured from a qualified source and shall meet the requirements of their respective specifications. The offeror will assure that the supplier has accomplished this and shall submit certified documentation of accomplishment of the above requirements to the purchaser along with the pre-contract award qualification article.

5. The required forgings shall be procured from the qualified forging source using the original certified forging procedures and dies. Forging material and lot qualifications shall be accomplished as required in the specified forging drawing, P/N 5-71661-503 and specification MIL-F-7190. The offeror shall assure that this is or has been accomplished by the forging source and will submit certified documentation of accomplishment of the above requirements to the government along with the pre-contract award qualification article.

6. The qualification article once submitted will become subject to such testing as deemed necessary by the U.S. Government to prove that the article meets all dimensional, processing and functional requirements. Such testing may result in the destruction of the article. Following completion of necessary testing and evaluation, the article no matter what its condition shall be returned to the contractor or disposed of at his discretion and direction whether it was found acceptable or not.

7. Form verification: The U.S. Government's Quality Verification Center (QVC) will be used to insure compliance with the dimensional requirements of the article. Material and processing compliance will also be verified as required.

8. Fit/function verification: Existing components and government test stands and fixtures will be utilized to verify physical interface and functional performance of articles.

9. Testing for material and process compliance.

(a) Material analysis
(b) Heat treat
(c) Grinding
(d) Plating
(e) Finish
(f) Grain flow
(g) Other

SOURCE QUALIFICATION REQUIREMENTS
(PL98-525, SECTION 2319)

STOCK NR (NSN)1620-00-771-8827 PART NUMBER (P/N)5-71661-503
NOUN: Inner Cyl Assy-TIP AIRCRAFT:B-52

10. Remarks:

a. Organic verification capabilities exist at OO-ALC.

b. Testing requirements outside organic capabilities will be contracted out.

11. The estimated cost of government testing and evaluation is $4500.00.

12. Maximum time for testing of the qualification article will not exceed 30 days from receipt at testing agency.

SECTION D

QUALIFICATION WAIVER REQUIREMENTS.

1. An offerer who has had previous experience in the manufacture and qualification of items, which can be correlated with this product, may apply to the design control authority at OO-ALC for a waiver of the above stated qualification requirements.

a. The qualification waiver criteria utilized by the design control authority to perform a qualification analysis are available upon request. The qualification waiver criteria may be used as a guide in preparing the offerer's written input to the design control authority.

b. The burden of proof for written inputs is on the offerer. The design control authority will not pursue authenticity verification of claims made by the offerer of product manufacturing experience with other Government or non-Government agencies. Unsubstantiated claims will not be considered in the waiver analysis process.

c. This waiver will be granted if and only if the design control authority (LGHLE) can establish the qualifications of the offerer through the evaluation of written inputs from the offerer or from previous knowledge of the offerer's capabilities or from previous experience with the offerer on similar item acquisitions. If there is any doubt about the offerer's capability, the offerer will be required to submit a pre-qualification article. There is no guarantee of qualification by similarity. LGHLE reserves the right to require a pre-qualification article of all offerers.

2. The current acquisition need not and will not be delayed in order to provide an offerer with an opportunity to meet the requirements for qualification waiver.

3. Maximum time for approval of qualification by similarity will not exceed 15 days.

REVISION: *09*

ENGINEERING DATA LIST

* HISTORY *

DATE :	DATA TECH :	ORGN SYMBOL :	PR NR :	APPLICATION:	PAGE
12JUN03	SCH	LGMPM		B-52	1 OF 1

CAGE:	MANUFACTURER NAME:	REFERENCE NR:	NOUN :	NSN :
81205	BOEING CO.	25-4204-5	PISTON,LANDING GEAR	1620013153296

CAGE	DRAWING NUMBER	REV	NR SHEETS	NR CARDS	FURN CODE	DIST CODE	NOUN	REQUIREMENTS
98747	OO-ALC/LGMPM /		0003	0000	S		ENGR DATA REQMTS ATTACHMENT "A"	
81205	25-4204 /	G	0001	0000	S		CYLINDER-INNER, MLG	
	/85C007							ECO
	/85C276							ECO
	/89C539							ECO
	/90C266							ECO
	/90C267							ECO
	/91C815							ECO
	/01C0015							ECO
	/01C0630							ECO
81205	25-4215 /	A	0002	0000	S		INNER-CYLINDER, FORGING	
81205	25-4216 /	A	0001	0000	S		INNER-CYLINDER, ROUGH MACHINED	
	/91C435							ECO
81205	35-23189 /	L	0001	0000	S		AXLE REWORK - MLG, KIT	
81205	6-71444 /	A	0001	0000	S		BUSHING	
98747	66C32353 /		0001	0000	S		KNUCKLE - MLG B-52 ACFT	
	/76A739							ECO

STANDARD ENGINEERING TEXT

ENGINEERING DATA LIST REMARKS

FURNISHED METHOD CODE LEGEND:

C - CLASSIFIED DOCUMENT.
S - FURNISHED WITH SOLICITATION.
M - STABLE BASE DRAWING REQUIRED; FURNISHED WITH CONTRACT AWARD.
X - DATA SUPPLIED (NOT IN EDCARS).
R - FURNISHED BY PCD UPON REQUEST.
P - PARTIAL DOCUMENT FURNISHED.
V - VENDOR DRAWING; (NOT PROVIDED).
G - GOV'T DOCUMENT.
O - OTHERS, CONTRACTOR MUST ACQUIRE.
A - DATA NOT AVAILABLE.

REV:	ENGINEERING DATA REMENTS (ATTACHMENT A")

NOTE: MILITARY SPECIFICATIONS/STANDARDS WILL NOT BE FURNISHED IN THE BID SET.

1. THE FOLLOWING INSTRUCTIONS ARE FURNISHED FOR THE MANUFACTURE OF

CYLINDER - INNER, MLG, B-52

2. PART NUMBER	3. NATIONAL STOCK NUMBER
25-4204-5	1620-01-315-3296

4. THE FOLLOWING SPECIFICATIONS/STANDARDS, ETC., WILL BE USED IN LIEU OF THE DATA INDICATED. THE SUPERSEDED DATA WILL NOT BE FURNISHED UNLESS SO INDICATED.

5. OO-ALC/LGHLEN SYSTEM ENGINEERING RETAINS ALL RIGHTS TO REVIEW AND ACCEPT/REJECT MRB'S PRIOR TO SHIPMENT OF DISCREPANT ITEMS. ALL DEVIATIONS, MINOR OR MAJOR, FROM THE ENGINEERING DRAWING PACKAGE WILL BE SUBMITTED FOR MRB DISPOSITION.

6. PRIOR TO CONTRACT AWARD, THE CONTRACTOR WILL CERTIFY TO THE GOVERNMENT IN WRITING, FULL COMPLIANCE WITH MANUALS, SPECIFICATIONS, AND STANDARDS CALLED OUT AND REQUIRED FOR THE MANUFACTURE OF THIS CONTRACTED LANDING GEAR COMPONENT/ASSEMBLY. CONTRACTOR IS RESPONSIBLE TO COMPLETELY SEARCH THESE MANUALS, SPECIFICATIONS, AND STANDARDS AND FULLY UNDERSTAND THE REQUIREMENTS NECESSARY TO MANUFACTURE LANDING GEAR COMPONENTS. ANY QUESTIONS CAN BE FORWARDED TO THIS OFFICE OO-ALC/LGHLEN.

7. AFTER CONTRACT AWARD THE SUCCESSFUL BIDDER SHALL PROVIDE A COPY OF THE PROCESSING DOCUMENTATION (ROUTING DOCUMENTS AND PROCESS SPECIFICATIONS) TO LGHLEN FOR FINAL REVIEW BEFORE PRODUCTION BEGINS.

8. IDENTIFICATION AND MARKING PER MIL-STD-130, IMPRESSION STAMPING NOT PERMITTED, IN LIEU OF BAC 5601.

9. SERIAL NUMBER SHALL BE VIBROPEENED (WITH VIBRATING PNEUMATIC PENCIL), IN 0.09" LETTERS 0.004" - 0.007" DEEP IN THE LOCATION INDICATED. IF THE DRAWING DOES NOT INDICATE A LOCATION, OO-ALC/LGHLEN SHALL PROVIDE S/N LOCATION INSTRUCTIONS. SERIALIZATION OF ITEM SHALL BE ACCOMPLISHED AS FOLLOWS: THE SERIALIZATION SHALL BEGIN WITH THE CAGE OF THE CONTRACTOR NAMED ON THE CONTRACT, FOLLOWED BY A DASH AND THE 2 DIGIT YEAR OF MANUFACTURE, FOLLOWED BY A DASH AND A SEQUENTIALLY UNIQUE 3 DIGIT NUMBER. A CONTRACTOR WHO RECEIVES NUMEROUS INTERMITTENT CONTRACTS SHALL START SERIALIZATION OF ITEM WITH THE NEXT NUMBER IN SEQUENCE OF THE PRIOR CONTRACT. IF A CONTRACT PRODUCES MORE THAN 999 ITEMS, THE SERIAL NUMBER SHOULD BEGIN USING 4 DIGIT SERIAL NUMBERS. THE SERIAL NUMBER SHOULD APPEAR LIKE THIS: "S/N 98747-03-001".

10. MATERIAL:

4330 STEEL PER SAE AMS 6427 IN LIEU OF MIL-S-8699. OPTIONAL, SAE AMS 6407 IN LIEU OF AMS 6407. (DWG 25-4215)

4340 STEEL PER SAE AMS 6415 OR SAE AMS 6484 IN LIEU OF MIL-S-5000. OPTIONAL, 4130 STEEL PER SAE AMS-S-6758 IN LIEU OF MIL-S-6758 OR 8630 STEEL PER SAE AMS 6280 IN LIEU OF MIL-S-6050. (DWG 6-71444)

11. HEAT TREAT/DECARBURIZATION AND PROCESS AS NOTED PER SAE AMS-H-6875 IN LIEU OF BAC 5601.

12. ON PARTS HEAT TREATED 180 KSI AND ABOVE, ANY SURFACE GROUND/MACHINED AFTER HEAT TREAT WILL BE NITAL ETCH INSPECTED FOR BURNS PER MIL-STD-867. GRINDING WILL BE PER MIL-STD-866.

13. SHOT PEEN TO DWG REQUIREMENTS PER SAE AMS-S-13165 IN LIEU OF BAC 5730 AND A.F. DWG 62A31577.

PREPARED BY	SYMBOL	DATE
CAROL HYER	LGMPM	4 Jun 03

REV:	ENGINEERING DATA REQUIREME[illegible] .TINUATION SHEET (ATTACHME. .")

PART NUMBER	NATIONAL STOCK NUMBER
25-4204-5	1620-01-315-3296

14. PERFORM MAGNETIC PARTICLE INSPECTION PER ASTM E 1444 IN LIEU OF BAC5424 AND MIL-I-6868. USE FULL WAVE DIRECT CURRENT (FWDC), WET CONTINUOUS METHOD, FLUORESCENT TYPE WITH THE FOLLOWING ACCEPTANCE/REJECTION CRITERIA: NO DEFECTS ALLOWED. THE INTENT OF NO DEFECTS ALLOWED IS THAT THE INSPECTION IS CONDUCTED AT THE REQUIRED SENSITIVITY LEVEL AND THERE SHALL BE NO INDICATIONS ALLOWED. THE INSPECTOR PERFORMING THE INSPECTION SHALL BE CERTIFIED TO LEVEL II WITH THE INSPECTION PROCEDURE DEVELOPED BY A LEVEL III AS SPECIFIED IN AIA/NAS-410.

15. MACHINE, USING BEST AIRCRAFT INDUSTRY SHOP PRACTICES, TO DRAWING REQUIREMENTS IN LIEU OF BAC 5440.

16. FOR FINISH HARD CHROME PLATE (NOTE 14) USE MIL-STD-1501, TYPE II, CLASS 3, IN LIEU OF BAC 5709.

17. FOR FINISH F-1.10, APPLY NO COATINGS, EXCEPT AS REQUIRED FOR HANDLING, TRANSPORTATION AND STORAGE.

18. FOR FINISH F-1.20, CADMIUM PLATE PER SAE AMS-QQ-P-416, TYPE II, CLASS 1.

19. FOR FINISH F-1.61, (NOTE 2) CADMIUM PLATE PER MIL-STD-870, TYPE II, CLASS 1, IN LIEU OF BAC 5021. FOLLOW WITH TWO (2) COATS OF EPOXY WATERBORNE PRIMER PER MIL-PRF-85582, TYPE I, CLASS 2. ALTERNATE PRIMER: TWO (2) COATS OF EPOXY-POLYAMIDE PER MIL-PRF-23377, TYPE I.

20. THE FORGINGS SHALL BE PROCURED FROM THE ORIGINAL FORGING SOURCE, USING THE ORIGINAL CERTIFIED FORGING PROCEDURES AND DIES/TOOLING.

A. PRIOR TO CONTRACT AWARD, THE DETAILED PART BIDDER SHALL PROVIDE CERTIFICATION, FROM THE FORGING SOURCE, TO THE GOVERNMENT THAT THE CERTIFIED DIES AND PROCEDURES ARE AVAILABLE AND THE FORGING SOURCE HAS AN AGREEMENT WITH THE DETAIL PARTS BIDDER TO PROVIDE FORGINGS FOR THEIR USE IN THE EVENT THEY ARE THE SUCCESSFUL BIDDER.

B. PRIOR TO PRODUCTION, FORGING LOT QUALIFICATION SHALL BE ACCOMPLISHED AS SPECIFIED ON THE FORGING DRAWING AND SAE AMS-F-7190 FOR STEEL FORGINGS AND SAE AMS-A-22771 FOR ALUMINUM FORGINGS. THE DETAILED PART CONTRACTOR SHALL ASSURE THAT THIS HAS BEEN ACCOMPLISHED BY THE FORGING SOURCE AND SHALL SUBMIT CERTIFIED DOCUMENTATION OF ACCOMPLISHMENT TO THE GOVERNMENT.

PREPARED BY	SYMBOL	DATE
CAROL HYER	LGMPM	4 Jun 03

REV:	ENGINEERING DATA REQUIREME' /INUATION SHEET (ATTACHME. .")

PART NUMBER	NATIONAL STOCK NUMBER
25-4204-5	1620-01-315-3296

21. FORGING SOURCE, CONTROL OF FORGING DIES AND THE LOCATION:

A. FORGING DRAWING: 170614

B. CONTROL OF FORGING PROCESS: HONEYWELL INTERNATIONAL INC (55284 CAGE)

C. LOCATION OF FORGING: LADISH COMPANY
5481 SOUTH PACKARD AVE
CUDAHY, WI 53110-2244
PHONE: (414) 747-2760
POC: JOE WILFERT

D. DIE NUMBER: BX076

22. PRIOR TO CONTRACT AWARD, THE CONTRACTOR SHALL ADVISE THE GOVERNMENT IN WRITING OF THE INTENT TO PROCURE NEW FORGING DIES AND THE PROPOSED FORGING SOURCE. THE CONTRACTOR SHALL NOT PROCEED TO OBTAIN NEW FORGING DIES WITHOUT THE EXPRESS WRITTEN CONSENT OF THE GOVERNMENT PROCURING ACTIVITY. THE GOVERNMENT SHALL HAVE UNLIMITED USE OF THE DIES DEVELOPED UNDER THIS CONTRACT. THE CONTRACTOR SHALL INFORM THE FORGING HOUSE IN WRITING, AT THE SAME TIME OF THE ORDER FOR THE DIES IS PLACED, THAT THE GOVERNMENT HAS UNLIMITED USE RIGHTS OF THE DIES AND FORWARD A COPY OF THIS LETTER TO THE GOVERNMENT CONTRACTING OFFICER.

23. INSTALL BUSHINGS PER THE FOLLOWING:

A. THE BUSHING INSTALLATIONS SHALL BE ACCOMPLISHED IN SUCH A MANNER AS TO AVOID DAMAGE TO THE FINISH ON THE I.D. OF THE HOUSING INTO WHICH THE BUSHING IS INSTALLED, OR THE FINISH OF THE O.D. OF THE BUSHING. FORCED INSTALLATION OF SUB-ZERO INSTALLATIONS, SUCH AS THE USE OF A PRESS OR HAMMER IS NOT PERMITTED, AND IS NOT ACCEPTABLE. A SMALL NON-METALLIC HAMMER MAY BE USED TO TAP THE BUSHING INTO ALIGNMENT WITH THE HOUSING BORE, OR TO SEAT THE BUSHING.

B. PRIOR TO BUSHING INSTALLATION, THE PARTS AND HOUSING BORE SHALL BE CLEANED WITH A CLEANING SOLVENT TO REMOVE ALL CONTAMINATION.

C. LIQUID NITROGEN SHALL BE USED FOR ALL SUB-ZERO INSTALLATIONS UNLESS SOME OTHER SUB-ZERO COOLANT IS SPECIFIED, AND APPROVED BY OO-ALC/LGHLEN ENGINEERING. THE SOAK TIME OF THE BUSHING IN THE LIQUID NITROGEN SHALL BE SUFFICIENT TO ALLOW THE BUSHING TO REACH THE SAME TEMPERATURE AS THE COOLANT.

D. THE BUSHING SHALL BE INSTALLED INTO THE HOUSING IMMEDIATELY UPON REMOVAL FROM THE COOLANT WITH AN ABSOLUTE MINIMUM OF LOST TIME. TRIAL RUNS SHALL BE ACCOMPLISHED AS NECESSARY TO MINIMIZE INSTALLATION TIME WHICH SHOULD BE IN THE ORDER OF ABOUT SEVEN (7) SECONDS MAXIMUM.

PREPARED BY	SYMBOL	DATE
CAROL HYER	LGMPM	4 Jun 03

REV:	ENGINEERING DATA REQUIREMEN[T] INUATION SHEET (ATTACHMEN[T]. /)

PART NUMBER	NATIONAL STOCK NUMBER
25-4204-5	1620-01-315-3296

E. IT MAY OCCASIONALLY BE NECESSARY TO HEAT THE HOUSING INTO WHICH THE BUSHING IS TO BE INSTALLED, IN ADDITION TO SUB-ZERO COOLING OF THE BUSHING. DETAIL PARTS IN PROCESS WILL NOT HAVE PAINT OR SEALANT OR OTHER ORGANIC MATERIAL APPLIED PRIOR TO HEATING, THE PARTS SHALL BE HEATED BY THE USE OF RADIANT HEAT TECHNIQUES, SUCH AS THERMAL BLANKETS, INFRARED LAMPS ETC.; TO THE MAXIMUM TEMPERATURE OF 250 F. TEMPERATURE MEASURING DEVICES SHALL BE USED TO MONITOR HEAT AND SHALL BE LOCATED ON AREAS OF THE PART EXPECTED TO REACH MAXIMUM TEMPERATURE. NO SCALING, OXIDATION, OR CORROSION SHALL BE PERMITTED.

F. BUSHINGS WITHOUT FLANGES SHALL BE INSTALLED INTO HOUSING BORE WHICH HAS RECEIVED A LIGHT COAT OF SEALANT PER MIL-PRF-81733. INSTALL SHRUNKEN BUSHING AND WIPE OFF ANY EXCESS SEALANT THAT MAY HAVE EXTRUDED AROUND THE PERIPHERY OF BOTH ENDS OF THE BUSHINGS.

G. BUSHINGS WITH FLANGES SHALL BE INSTALLED IN A SIMILAR MANNER AS PARAGRAPH (F) EXCEPT SEALANT SHALL ALSO BE APPLIED TO FACE OF LUG UNDER FLANGE. SEALANT SHALL BE APPLIED IN SUCH A MANNER AS TO ENSURE COMPLETE COVERAGE OF INSIDE FACE OF BUSHING FLANGE WHEN BUSHING IS INSTALLED. WIPE OFF ANY EXCESS SEALANT AROUND PERIPHERY OF BUSHING FLANGE. WIPE ANY EXCESS SEALANT FROM OTHER END OF BUSHING ALSO.

H. FOR BUSHINGS WITH EXTERNAL GREASE GROOVES THE INSIDE OF THE LUG WILL BE COATED WITH MIL-C-16173 PRIOR TO BUSHING INSTALLATION AND FACE OF LUG WILL BE COATED WITH MIL-PRF-81733 PER PARAGRAPH G, IF BUSHING IS FLANGED.

24. BAC 5300, BAC 5002, BAC 5504, BAC 5006, BAC 5009, BAC 5021, BAC 6936, D2-1756, DRAWING 2-5000, AND DRAWING 25-4205 ARE NOT REQUIRED TO MANUFACTURE.

25. DISREGARD ALL NOTES ON DRAWING 35-23189 THAT DO NOT AFFECT THE MACHINING OF THE PART.

PREPARED BY	SYMBOL	DATE
CAROL HYER	LGMPM	4 Jun 03

SOURCE QUALIFICATION REQUIREMENTS
(PL98-525, SECTION 2319)

STOCK NR (NSN): 1620-01-315-3296 PART NUMBER (P/N): 25-4204-5
NOUN: PISTON, LANDING GEAR AIRCRAFT: B-52

SECTION C

QUALIFICATION REQUIREMENTS THAT MUST BE SATISFIED TO BECOME A QUALIFIED SOURCE:

1. Because of the need for uninterrupted item support to military aircraft systems while keeping with the requirements of PL 98-525, the current acquisition need not and generally will not be delayed to provide an offeror an opportunity to qualify. Normal acquisition practices at OO-ALC should preclude the denial of opportunity to any interested offeror.

2. The offeror must provide a pre-contract award qualification article, which meets the requirements of the engineering drawings, material specifications, and process specifications. However, successful completion of the qualification testing does not guarantee any contract award. If the offeror is deemed qualified and awarded the contract, a post-contract award first ariticle exhibit may be required to verify production capability.

3. The qualification article will be subjected to form, fit, and function verification as well as required testing to assure compliance with data list and other applicable procurement criteria. The qualification article shall demonstrate full compatibility and comparability with existing parts.

4. The required materials will be procured from a qualified source and shall meet the requirements of their respective specifications. The offeror will assure that the supplier has accomplished this and shall submit certified documentation of accomplishment of the above requirements to the purchaser along with the pre-contract award qualification article.

5. The required forgings shall be procured from the qualified forging source using the original certified forging procedures and dies. Forging material and lot qualifications shall be accomplished as required in the specified forging drawing, P/N 25-4204-5 and specification SAE AMS-F-7190. The offeror shall assure that this is or has been accomplished by the forging source and will submit certified documentation of accomplishment of the above requirements to the government along with the pre-contract award qualification article.

6. The qualification article once submitted will become subject to such testing as deemed necessary by the U.S. Government to prove that the article meets all dimensional, processing and functional requirements. Such testing may result in the destruction of the article. Following completion of necessary testing and evaluation, the article no matter what its condition shall be returned to the contractor or disposed of at his discretion and direction whether it was found acceptable or not.

7. Form verification: The U.S. Government's Quality Verification Center (QVC) will be used to insure compliance with the dimensional requirements of the article. Material and processing compliance will also be verified as required.

8. Fit/function verification: Existing components and government test stands and fixtures will be utilized to verify physical interface and functional performance of articles.

9. Testing for material and process compliance.

(a) Material analysis
(b) Heat treat
(c) Grinding
(d) Plating
(e) Finish
(f) Grain flow
(g) Other

SOURCE QUALIFICATION REQUIREMENTS
(PL98-525, SECTION 2319)

STOCK NR (NSN): ,1620-01-315-3296 PART NUMBER (P/N): 25-4204-5
NOUN: PISTON, LANDING GEAR AIRCRAFT: B-52

10. Remarks:

a. Organic verification capabilities exist at OO-ALC.

b. Testing requirements outside organic capabilities will be contracted out.

11. The estimated cost of government testing and evaluation is $3000.00.

12. Maximum time for testing of the qualification article will not exceed 30 days from receipt at testing agency.

SECTION D

QUALIFICATION WAIVER REQUIREMENTS.

1. An offerer who has had previous experience in the manufacture and qualification of items, which can be correlated with this product, may apply to the design control authority at OO-ALC for a waiver of the above stated qualification requirements.

a. The qualification waiver criteria utilized by the design control authority to perform a qualification analysis are available upon request. The qualification waiver criteria may be used as a guide in preparing the offerer's written input to the design control authority.

b. The burden of proof for written inputs is on the offerer. The design control authority will not pursue authenticity verification of claims made by the offerer of product manufacturing experience with other Government or non-Government agencies. Unsubstantiated claims will not be considered in the waiver analysis process.

c. This waiver will be granted if and only if the design control authority (LGHLE) can establish the qualifications of the offerer through the evaluation of written inputs from the offerer or from previous knowledge of the offerer's capabilities or from previous experience with the offerer on similar item acquisitions. If there is any doubt about the offerer's capability, the offerer will be required to submit a pre-qualification article. There is no guarantee of qualification by similarity. LGHLE reserves the right to require a pre-qualification article of all offerers.

2. The current acquisition need not and will not be delayed in order to provide an offerer with an opportunity to meet the requirements for qualification waiver.

3. Maximum time for approval of qualification by similarity will not exceed 15 days.

REVISION: *03*

ENGINEERING DATA LIST

* HISTORY *

DATE :	DATA TECH :	ORGN SYMBOL :	PR NR :	APPLICATION:	PAGE
18APR03	SDD	LGMPM		B-52	1 OF 1

CAGE:	MANUFACTURER NAME:	REFERENCE NR:	NOUN :	NSN :
81205	BOEING CO.	5-71661-504	PISTON,LANDING GEAR	1620007718830

CAGE	DRAWING NUMBER	REV	NR SHEETS	NR CARDS	FURN CODE	DIST CODE	NOUN	REQUIREMENTS
98747	00-ALC/LGMPM /		0003	0000	S		ENGR DATA REQMTS ATTACHMENT "A"	
81205	3-80059 /	G	0001	0000	S		AXLE	
81205	4-80076 /	C	0001	0000	S		SHEAR PLUG	
81205	5-36426 /	E	0001	0000	S		INNER CYLINDER FORGING	
81205	5-71661 /	D	0001	0000	S		CYLINDER ASSEMBLY-INNER	
	/8-C-3							DCN
	/83C492							ECO
	/83C827							ECO

STANDARD ENGINEERING TEXT

ENGINEERING DATA LIST REMARKS

FURNISHED METHOD CODE LEGEND:

C - CLASSIFIED DOCUMENT.
S - FURNISHED WITH SOLICITATION.
M - STABLE BASE DRAWING REQUIRED; FURNISHED WITH CONTRACT AWARD.
X - DATA SUPPLIED (NOT IN EDCARS).
R - FURNISHED BY PCD UPON REQUEST.
P - PARTIAL DOCUMENT FURNISHED.
V - VENDOR DRAWING; (NOT PROVIDED).
G - GOV'T DOCUMENT.
O - OTHERS, CONTRACTOR MUST ACQUIRE.
A - DATA NOT AVAILABLE.

REV:	ENGINEERING DATA REQUIREMENTS *(ATTACHMENT "A")*

NOTE: MILITARY SPECIFICATIONS I/STANDARDS WILL NOT BE FURNISHED IN THE BID SET.

1. THE FOLLOWING INSTRUCTIONS ARE FURNISHED FOR THE MANUFACTURE OF

Cylinder Assembly-Inner, Tip Protection Gear, B-52 ACFT

2. PART NUMBER	3. NATIONAL STOCK NUMBER
5-71661-504	1620 00 771 8830

4. THE FOLLOWING SPECIFICATIONS/STANDARDS, ETC., WILL BE USED IN LIEU OF THE DATA INDICATED. THE SUPERSEDED DATA WILL NOT BE FURNISHED UNLESS SO INDICATED.

5. OO-ALC/LGHLEN System Engineering retains all rights to review and accept/reject MRB's prior to shipment of discrepant items. All deviations, minor or major, from the Engineering Drawing Package will be submitted for MRB disposition.

6. Prior to contract award, the contractor will certify to the government in writing, full compliance with manuals, specifications, and standards called out and required for the manufacture of this contracted landing gear component/assembly. Contractor is responsible to completely search these manuals, specifications, and standards and fully understand the requirements necessary to manufacture landing gear components. Any questions can be forwarded to this office OO-ALC/LGHLEN.

7. After contract award the successful bidder shall provide a copy of the processing documentation (routing documents and process specifications) to LGHLEN for final review before production begins.

8. Identification and Marking per MIL-STD-130, impression stamping not permitted, in lieu of BAC 5307.

9. Drawing 2-5000, BACD 2041, BAC 5602, BAC 5004 and MIL-H-6088 are not required to manufacture this item.

10. Threads per MIL-S-7742, Safety Critical.

11. Perform MAGNETIC PARTICLE INSPECTION per ASTM E1444 in lieu of MIL-I-6868. Use full wave direct current (FWDC),wet continuous method, fluorescent type. This inspection shall have the following acceptance/rejection criteria: NO DEFECTS ALLOWED. The intent of NO DEFECTS ALLOWED is that the inspection is conducted at the required sensitivity level and there shall be no indications allowed. The inspector performing the inspection will be certified to the Level II with the inspection procedure developed by a Level III as specified in NAS-410.

12. Heat Treat per SAE AMS-H-6875 in lieu of BAC 5601.

13. On parts heat treated 180 KSI and above, any surfaces ground/machined after heat treat will be inspected for burns per MIL-STD-867. Grinding will be per MIL-STD-866.

14. The following finish codes apply to the manufacture of this item:

A. F 1.10 Apply no finish except that temporary coatings may be applied as required for protection during handling, transportation, and storage.

B. F 1.20 Cadmium Plate per MIL-STD-870, Class 1, Type II. Option F 1.205 not allowed.

C. F 1.60 Cadmium Plate per MIL-STD-870, Class 1, Type II. Apply 2 Primer Coats Epoxy-Polyamide per MIL-PRF-23377 to Interior Surfaces excluding the Axle Hole. Option F 1.65 not allowed.

D. F 1.61 Cadmium Plate per MIL-STD-870 Type III, Class 2. Single Plate thickness .003"-.005" except as noted. Exterior surfaces only. Two primer coats of epoxy-polymide per MIL-PRF-23377 to interior surfaces.

PREPARED BY	SYMBOL	DATE
Dave Dodd	LGMPM	17 Apr 03

E. F 1.90 Chromium Plate to drawing specified thickness to meet the requirements of QQ-C-320, Class 2.

F. F 12.46 Assemble with wet primer TT-P-1757 on faying surfaces only.

15. Apply one coat Epoxy-Polyamide primer per MIL-PRF-23377, followed with two top coats polyurethane per MIL-PRF-85285, Type 1, color # 17925 (White) per FED-STD-595 to the exterior surfaces of P/N 5-36426-2 excluding the Axle Hole.

16. Use SAE AMS 6484 for 4340 Steel in lieu of MIL-S-5000. (DWG 5-36426 & 3-80059)

17. Use SAE AMS 6382 for 4140 Steel in lieu of MIL-S-5626. (DWG 4-80076 & 3-80059)

18. Use SAE AMS 6280 for 8630 Steel in lieu of MIL-S-6050. (DWG 4-80076)

19. Machine using Best Aircraft Industry Shop Practices in lieu of BACD 2097.

20. DRILLING, REAMING, and HONING to meet drawing specifications, using best shop procedures and the following notes:

A. High speed steel (HSS) drills shall be used to drill corrosion resistant steel.

B. HSS reamers will be used for rough reaming, and final reaming of steels heat treated below 200 KSI. Carbide or premium grade hi-speed steel tipped reamers will be used for rough reaming of steels heat treated above 200 KSI.

C. Honing stones shall be of 150 to 500 aluminum oxide grit with a medium-hard bond and preferably a multi-head stone. Heads with steel shoes or wipers shall not be used.

D. Drilling shall never be used as a final machining operation. A minimum of 0.015 inch on diameter shall be left for final reaming. Holes shall be finished by reaming or boring. When jigs, fixtures, or bushings are not used for drilling holes larger than 1/4 inch, the holes will be piloted with a center drill. Chemical, electrical, or electrochemical hole producing methods shall not be used as a final surface producing method without prior approval from OO-ALC/LGHLEN.

E. Rough reaming, the reamer length shall be as short as consistent with required penetration. Final reaming, the diametral cut shall produce a hole that meets the requirements of the engineering drawing.

F. Honing shall be used as a final operation where a surface finish better than 125 roughness height ratio is required and cannot be produced by other means.

G. Carbide drills can be operated at higher speeds than HSS drills, but must be used with caution. They must not be used in a dull or chipped condition.

REV:	ENGINEERING DATA REQUIREMENTS CONTINUATION SHEET *(ATTACHMENT "A")*
PART NUMBER	NATIONAL STOCK NUMBER
5-71661-504	1620 00 771 8830

21. FORGING REQUIREMENTS:

A. The required forging will be procured from the qualified forging source using the original certified forging procedures and dies/tooling.

1. Prior to contract award the detailed part bidder will provide certification, from the forging source, to the government that the certified dies and forging procedures are available and the forging source has an agreement with the detail part bidder to provide forgings for their use in the event they are the successful bidder.

2. Prior to production, forging lot qualification will be accomplished as specified on the forging drawing and SAE AMS-F-7190 (Steel). The contractor will assure that this is or has been accomplished by the forging source and will submit certified documentation of accomplishment to the government.

B. FORGING SOURCE, CONTROL AND LOCATION OF DIES:

1. Forging drawing: Boeing Aircraft Co. 5-36426-2
   Die number: Unknown

2. Control of forging processes: Unknown

3. Location of forging dies: Unknown

C. INSTRUCTIONS FOR QUALIFICATION OF NEW FORGING SOURCE:

1. Prior to contract award, the contractor will advise the government in writing of their intent to procure new forging dies and the proposed forging source. The contractor will not proceed to obtain new dies without the express consent of the government procuring agency. The government will have unlimited use of the dies developed under this contract. The contractor will inform the forging house in writing, at the same time the order for the dies is placed, that the government has unlimited use rights of the dies and forward a copy of this letter to the Contracting Officer.

22. Use NSN : 5310 01 073 8613, PN : AN365-428, CAGE : 88044, Self Locking Nut in lieu of BAC-N10BY-54W.

PREPARED BY	SYMBOL	DATE
Dave Dodd	LGMPM	17 Apr 03

SOURCE QUALIFICATION REQUIREMENTS
(PL98-525, SECTION 2319)

STOCK NR (NSN)1620-00-771-8830
NOUN: Inner Cyl Assy-TIP

PART NUMBER (P/N)5-71661-504
AIRCRAFT:B-52

SECTION C

QUALIFICATION REQUIREMENTS THAT MUST BE SATISFIED TO BECOME A QUALIFIED SOURCE:

1. Because of the need for uninterrupted item support to military aircraft systems while keeping with the requirements of PL 98-525, the current acquisition need not and generally will not be delayed to provide an offeror an opportunity to qualify. Normal acquisition practices at OO-ALC should preclude the denial of opportunity to any interested offeror.

2. The offeror must provide a pre-contract award qualification article, which meets the requirements of the engineering drawings, material specifications, and process specifications. However, successful completion of the qualification testing does not guarantee any contract award. If the offeror is deemed qualified and awarded the contract, a post-contract award first ariticle exhibit may be required to verify production capability.

3. The qualification article will be subjected to form, fit, and function verification as well as required testing to assure compliance with data list and other applicable procurement criteria. The qualification article shall demonstrate full compatibility and comparability with existing parts.

4. The required materials will be procured from a qualified source and shall meet the requirements of their respective specifications. The offeror will assure that the supplier has accomplished this and shall submit certified documentation of accomplishment of the above requirements to the purchaser along with the pre-contract award qualification article.

5. The required forgings shall be procured from the qualified forging source using the original certified forging procedures and dies. Forging material and lot qualifications shall be accomplished as required in the specified forging drawing, P/N 5-71661-504 and specification MIL-F-7190. The offeror shall assure that this is or has been accomplished by the forging source and will submit certified documentation of accomplishment of the above requirements to the government along with the pre-contract award qualification article.

6. The qualification article once submitted will become subject to such testing as deemed necessary by the U.S. Government to prove that the article meets all dimensional, processing and functional requirements. Such testing may result in the destruction of the article. Following completion of necessary testing and evaluation, the article no matter what its condition shall be returned to the contractor or disposed of at his discretion and direction whether it was found acceptable or not.

7. Form verification: The U.S. Government's Quality Verification Center (QVC) will be used to insure compliance with the dimensional requirements of the article. Material and processing compliance will also be verified as required.

8. Fit/function verification: Existing components and government test stands and fixtures will be utilized to verify physical interface and functional performance of articles.

9. Testing for material and process compliance.

(a) Material analysis
(b) Heat treat
(c) Grinding
(d) Plating
(e) Finish
(f) Grain flow
(g) Other

SOURCE QUALIFICATION REQUIREMENTS
(PL98-525, SECTION 2319)

STOCK NR (NSN)1620-00-771-8830 PART NUMBER (P/N)5-71661-504
NOUN: Inner Cyl Assy-TIP AIRCRAFT:B-52

10. Remarks:

a. Organic verification capabilities exist at OO-ALC.

b. Testing requirements outside organic capabilities will be contracted out.

11. The estimated cost of government testing and evaluation is $4500.00.

12. Maximum time for testing of the qualification article will not exceed 30 days from receipt at testing agency.

SECTION D

QUALIFICATION WAIVER REQUIREMENTS.

1. An offerer who has had previous experience in the manufacture and qualification of items, which can be correlated with this product, may apply to the design control authority at OO-ALC for a waiver of the above stated qualification requirements.

a. The qualification waiver criteria utilized by the design control authority to perform a qualification analysis are available upon request. The qualification waiver criteria may be used as a guide in preparing the offerer's written input to the design control authority.

b. The burden of proof for written inputs is on the offerer. The design control authority will not pursue authenticity verification of claims made by the offerer of product manufacturing experience with other Government or non-Government agencies. *Unsubstantiated claims will not be considered in the waiver* analysis process.

c. This waiver will be granted if and only if the design control authority (LGHLE) can establish the qualifications of the offerer through the evaluation of written inputs from the offerer or from previous knowledge of the offerer's capabilities or from previous experience with the offerer on similar item acquisitions. If there is any doubt about the offerer's capability, the offerer will be required to submit a pre-qualification article. There is no guarantee of qualification by similarity. LGHLE reserves the right to require a pre-qualification article of all offerers.

2. The current acquisition need not and will not be delayed in order to provide an offerer with an opportunity to meet the requirements for qualification waiver.

3. Maximum time for approval of qualification by similarity will not exceed 15 days.

REVISION: *10*

ENGINEERING DATA LIST

* HISTORY *

DATE :	DATA TECH :	ORGN SYMBOL :	PR NR :	APPLICATION:	PAGE
04APR03	SDD	LGMPM		C-130	1 OF 1

CAGE:	MANUFACTURER NAME:	REFERENCE NR:	NOUN :	NSN :
98897	LOCKHEED MARTIN	388059-11	PISTON,LANDING GEAR	1620008624057

CAGE	DRAWING NUMBER	REV	NR SHEETS	NR CARDS	FURN CODE	DIST CODE	NOUN	REQUIREMENTS
98897	388059 /	AG	0001	0000	S		PISTON-SHOCK STRUT, MLG ASSY OF	
98897	3333895 /	B	0001	0000	S		PISTON-SHOCK STRUT, MLG (FORGING	
98897	LAC 0701 /	G3	0000	0000	S		PROCESS SPECIFICATION	
98747	OO-ALC/LGMPM /		0003	0000	S		ENGR DATA REQMTS ATTACHMENT "A"	

STANDARD ENGINEERING TEXT

ENGINEERING DATA LIST REMARKS

FURNISHED METHOD CODE LEGEND:

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S - FURNISHED WITH SOLICITATION.
M - STABLE BASE DRAWING REQUIRED; FURNISHED WITH CONTRACT AWARD.
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R - FURNISHED BY PCD UPON REQUEST.
P - PARTIAL DOCUMENT FURNISHED.
V - VENDOR DRAWING; (NOT PROVIDED).
G - GOV'T DOCUMENT.
O - OTHERS, CONTRACTOR MUST ACQUIRE.
A - DATA NOT AVAILABLE.

REV:	ENGINEERING DATA REQUIREMENTS *(ATTACHMENT "A")*

NOTE: MILITARY SPECIFICATIONS I/STANDARDS WILL NOT BE FURNISHED IN THE BID SET.

1. THE FOLLOWING INSTRUCTIONS ARE FURNISHED FOR THE MANUFACTURE OF

PISTON - SHOCK STRUT, MLG ASSY OF

2. PART NUMBER	3. NATIONAL STOCK NUMBER
388059-11	1620-00-862-4057

4. THE FOLLOWING SPECIFICATIONS/STANDARDS, ETC., WILL BE USED IN LIEU OF THE DATA INDICATED. THE SUPERSEDED DATA WILL NOT BE FURNISHED UNLESS SO INDICATED.

5. OO-ALC/LILE SYSTEM ENGINEERING RETAINS ALL RIGHTS TO REVIEW AND ACCEPT/REJECT MATERIAL REVIEW BOARD (MRB) DISPOSITIONS PRIOR TO SHIPMENT OF DISCREPANT ITEM. ALL DEVIATIONS, MINOR AND MAJOR, FROM THE ENGINEERING DRAWING PACKAGE SHALL BE SUBMITTED FOR MRB DISPOSITION.

6. PRIOR TO CONTRACT AWARD, THE CONTRACTOR SHALL CERTIFY TO THE GOVERNMENT IN WRITING FULL COMPLIANCE WITH MANUALS, SPECIFICATIONS, AND STANDARDS CALLED OUT AND REQUIRED FOR THE MANUFACTURE OF THIS CONTRACTED LANDING GEAR COMPONENT/ASSEMBLY. CONTRACTOR IS RESPONSIBLE TO COMPLETELY SEARCH THESE MANUALS, SPECIFICATIONS, AND STANDARDS AND FULLY UNDERSTAND THE REQUIREMENTS NECESSARY TO MANUFACTURE LANDING GEAR COMPONENTS. ANY QUESTIONS CAN BE FORWARDED TO THE OFFICE OF OO-ALC/LILE.

7. AFTER CONTRACT AWARD, THE SUCCESSFUL BIDDER SHALL PROVIDE A COPY OF THE PROCESSING DOCUMENTATION (ROUTING DOCUMENTS AND PROCESS SPECIFICATIONS) TO LILE FOR FINAL REVIEW BEFORE PRODUCTION BEGINS.

8. IDENTIFY PER MIL-STD-130 IN LIEU OF LAC 0227.

9. SERIAL NUMBER SHALL BE VIBROPEENED (WITH VIBRATING PNEUMATIC PENCIL), IN 0.09" LETTERS 0.004" -0.007" DEEP IN THE LOCATION INDICATED. IF THE DRAWING DOES NOT INDICATED A LOCATION, OO-ALC/LILE SHALL PROVIDE S/N LOCATION INSTRUCTIONS. SERIALIZATION OF ITEM SHALL BE ACCOMPLISHED AS FOLLOWS: THE SERIALIZATION SHALL BEGIN WITH THE CAGE (FSCM) OF THE CONTRACTOR NAMED ON THE CONTRACT, FOLLOWED BY A DASH AND THE 2 DIGIT YEAR OF MANUFACTURE, FOLLOWED BY A DASH AND A SEQUENTIALLY UNIQUE 3 DIGIT NUMBER. A CONTRACTOR WHO RECEIVES NUMEROUS INTERMITTENT CONTRACTS SHALL START SERIALIZATION OF ITEM WITH THE NEXT NUMBER IN SEQUENCE OF THE PRIOR CONTRACT. IF A CONTRACT PRODUCES MORE THAN 999 ITEMS, THE SERIAL NUMBER SHOULD BEGIN USING 4 DIGIT SERIAL NUMBERS. THE SERIAL NUMBER SHOULD APPEAR LIKE THIS: "S/N 98747-00-001.

10. MATERIAL: 300M STEEL PER SAE AMS 6257 IN LIEU OF MIL-S-8844.

11. CHROMIUM PLATE PER MIL-STD-1501, TYPE I OR II, CLASS 2, IN LIEU OF LAC 0496.

12. TITANIUM CADMIUM PLATE AS NOTED PER MIL-STD-1500, CLASS 2, TYPE II IN LIEU OF STP 58-005.

13. SHOT PEEN PER SAE AMS-S-13165, INTENSITY .008A - .012A, 200% COVERAGE.

PREPARED BY	SYMBOL	DATE
DENISE BISHOP	LGMPM	1 Nov 01

REV:	ENGINEERING DATA REQUIREM ... CONTINUATION SHEET *(ATTACHMENT "A")*
PART NUMBER	NATIONAL STOCK NUMBER
388059-11	1620-00-862-4057

14. ROUGH FORGING (-991) TO BE NORMALIZED AND TEMPERED RHC 33 MAX. PER SAE AMS-H-6875 IN LIEU OF MIL-H-6875. FINISHED PART TO BE HEAT TREATED PER SAE AMS-H-6875 IN LIEU OF STP 54-006, MIL-H-6875 AND LAC PROCESS SPEC 522. PARTS HEAT TREATED TO 180 KSI AND ABOVE; ANY SURFACE GROUND/MACHINED AFTER HEAT TREAT, SHALL BE INSPECTED FOR ABUSIVE GRINDING/MACHINING BURNS PER MIL-STD-867. GRINDING SHALL BE PER MIL-STD-866.

15. FORGE AND INSPECT PER MIL-F-7190 IN LIEU OF LAC 0562 AND LAC PROCESS SPEC 562.

16. REMOVAL OF FORGING DECARBURIZATION PER MIL-F-7190 IN LIEU OF LAC 0450.

17. PERFORM MAGNETIC PARTICLE INSPECTION PER ASTM E 1444 IN LIEU OF STP 53-001 AND LAC PROCESS SPEC 565. USE FULL WAVE DIRECT CURRENT (FWDC), WET CONTINUOUS METHOD, FLUORESCENT TYPE WITH THE FOLLOWING ACCEPTANCE/REJECTION CRITERIA: **NO DEFECTS ALLOWED**. THE INTENT OF **NO DEFECTS ALLOWED** IS THAT THE INSPECTION IS CONDUCTED AT THE REQUIRED SENSITIVITY LEVEL AND THERE SHALL BE NO INDICATIONS ALLOWED. THE INSPECTOR PERFORMING THE INSPECTION SHALL BE CERTIFIED TO LEVEL II WITH THE INSPECTION PROCEDURE DEVELOPED BY A LEVEL III AS SPECIFIED IN NAS-410.

18. FINISH TO MEET DRAWING SPECIFICATIONS PER THE FOLLOWING IN LIEU OF LAC 0471 AND LAC G-14. FOR FINISH 54-36-36 USE THE FOLLOWING:

A. FOR 54, APPLY ONE COAT EXPOXY WATERBORNE PRIMER PER MIL-PRF-85582, TYPE I, CLASS C2. ALTERNATE ONE COAT OF EPOXY POLYAMIDE PRIMER PER MIL-PRF-23377, TYPE I.

B. FOR 36-36, APPLY TWO TOP COATS POLYURETHANE PER MIL-PRF-85285, TYPE I, COLOR NUMBER 17925 (WHITE) PER FED-STD-595).

19. THREADS PER MIL-S-8879, SAFETY CRITICAL.

20. DWG 363174, 355000, 335111, DS5025 LAC REPORT NO. ER4741, LAC G-220 AND LAC PROCESS BULL G220 ARE NOT REQUIRED FOR MANUFACTURE.

21. FIRST ARTICLE APPROVAL PER SAE AMS 2375 IN LIEU OF AMS 2375.

22. FORGING REQUIREMENTS:

A. THE FORGING SHALL BE PROCURED FROM THE ORIGINAL FORGING SOURCE, USING THE ORIGINAL CERTIFIED FORGING PROCEDURES AND DIES/TOOLING.

1. PRIOR TO CONTRACT AWARD, THE DETAILED PART BIDDER SHALL PROVIDE CERTIFICATION, FROM THE FORGING SOURCE, TO THE GOVERNMENT THAT THE CERTIFIED DIES AND PROCEDURES ARE AVAILABLE AND THE FORGING SOURCE HAS AN AGREEMENT WITH THE DETAIL PARTS BIDDER TO PROVIDE FORGINGS FOR THEIR USE IN THE EVENT THEY ARE THE SUCCESSFUL BIDDER.

PREPARED BY	SYMBOL	DATE
DENISE BISHOP	LGMPM	1 Nov 01

REV:	ENGINEERING DATA REQUIREM... S CONTINUATION SHEET *(ATTACHMENT "A")*
PART NUMBER	NATIONAL STOCK NUMBER
388059-11	1620-00-862-4057

2. PRIOR TO PRODUCTION, FORGING LOT QUALIFICATION SHALL BE ACCOMPLISHED AS SPECIFIED ON THE FORGING DRAWING AND SAE AMS-F-7190. THE DETAIL PART CONTRACTOR SHALL ASSURE THAT THIS HAS BEEN ACCOMPLISHED BY THE FORGING SOURCE AND SHALL SUBMIT CERTIFIED DOCUMENTATION OF ACCOMPLISHMENT TO THE GOVERNMENT.

B. FORGING SOURCE, CONTROL AND LOCATION OF DIES:

1. FORGING FOR P/N H388059-991 IS:

DIE # 4913

CONTROL OF FORGING PROCESS: HEROUX INC. (CAGE 36164)
LONGUEIL, CANADA

LOCATION OF FORGING DIES: PARK-OHIO INDUSTRIES, INC.
PARK DROP FORGE CO.
777 EAST 79TH ST.
CLEVELAND, OH 44103

2. FORGING FOR P/N 3333895-991 IS:

DIE # 6415

CONTROL OF FORGING PROCESS: BFGOODRICH CO. (CAGE 13002)
CLEVELAND, OH 44105

LOCATION OF FORGING DIE: CANTON DROP FORGE, INC.
4575 SOUTHWAY STREET S.W.
CANTON, OH 44706

THE PREFERRED CONFIGURATION FOR 388059 WILL BE MADE FROM 333895-991 FORGING.

PREPARED BY	SYMBOL	DATE
DENISE BISHOP	LGMPM	1 Nov 01

SOURCE QUALIFICATION REQUIREMENTS
(PL98-525, SECTION 2319)

STOCK NUMBER (NSN): 1620 00 862 4057 PART NUMBER (P/N) : 388059-11
NOUN: Piston-Shock Strut, MLG Assy Of AIRCRAFT: C-130

SECTION C

QUALIFICATION REQUIREMENTS THAT MUST BE SATISFIED TO BECOME A QUALIFIED SOURCE:

1. Because of the need for uninterrupted item support to military aircraft systems while keeping with the requirements of PL 98-525, the current acquisition need not and generally will not be delayed to provide an offeror an opportunity to qualify. Normal acquisition practices at OO-ALC should preclude the denial of opportunity to any interested offeror.

2. The offeror must provide a pre-contract award qualification article, which meets the requirements of the engineering drawings, material specifications, and process specifications. However, successful completion of the qualification testing does not guarantee any contract award. If the offeror is deemed qualified and awarded the contract, a post-contract award first ariticle exhibit may be required to verify production capability.

3. The qualification article will be subjected to form, fit, and function verification as well as required testing to assure compliance with data list and other applicable procurement criteria. The qualification article shall demonstrate full compatibility and comparability with existing parts.

4. The required materials will be procured from a qualified source and shall meet the requirements of their respective specifications. The offeror will assure that the supplier has accomplished this and shall submit certified documentation of accomplishment of the above requirements to the purchaser along with the pre-contract award qualification article.

5. The required forgings shall be procured from the qualified forging source using the original certified forging procedures and dies. Forging material and lot qualifications shall be accomplished as required in the specified forging drawing, P/N 3333895 and specification MIL-F-7190. The offeror shall assure that this is or has been accomplished by the forging source and will submit certified documentation of accomplishment of the above requirements to the government along with the pre-contract award qualification article.

6. The qualification article once submitted will become subject to such testing as deemed necessary by the U.S. Government to prove that the article meets all dimensional, processing and functional requirements. Such testing may result in the destruction of the article. Following completion of necessary testing and evaluation, the article no matter what its condition shall be returned to the contractor or disposed of at his discretion and direction whether it was found acceptable or not.

7. Form verification: The U.S. Government's Quality Verification Center (QVC) will be used to insure compliance with the dimensional requirements of the article. Material and processing compliance will also be verified as required.

8. Fit/function verification: Existing components and government test stands and fixtures will be utilized to verify physical interface and functional performance of articles.

9. Testing for material and process compliance.

(a) Material analysis
(b) Heat treat
(c) Grinding
(d) Plating
(e) Finish
(f) Grain flow
(g) Other

SOURCE QUALIFICATION REQUIREMENTS
(PL98-525, SECTION 2319)

STOCK NUMBER (NSN): 1620 00 862 4057 PART NUMBER (P/N) :388059-11
NOUN: Piston-Shock Strut, MLG Assy Of AIRCRAFT: C-130

10. Remarks:

a. Organic verification capabilities exist at OO-ALC.

b. Testing requirements outside organic capabilities will be contracted out.

11. The estimated cost of government testing and evaluation is $ 2000.00.

12. Maximum time for testing of the qualification article will not exceed 45 days from receipt at testing agency.

SECTION D

QUALIFICATION WAIVER REQUIREMENTS.

1. An offerer who has had previous experience in the manufacture and qualification of items, which can be correlated with this product, may apply to the design control authority at OO-ALC for a waiver of the above stated qualification requirements.

a. The qualification waiver criteria utilized by the design control authority to perform a qualification analysis are available upon request. The qualification waiver criteria may be used as a guide in preparing the offerer's written input to the design control authority.

b. The burden of proof for written inputs is on the offerer. The design control authority will not pursue authenticity verification of claims made by the offerer of product manufacturing experience with other Government or non-Government agencies. Unsubstantiated claims will not be considered in the waiver analysis process.

c. This waiver will be granted if and only if the design control authority (LILE) can establish the qualifications of the offerer through the evaluation of written inputs from the offerer or from previous knowledge of the offerer's capabilities or from previous experience with the offerer on similar item acquisitions. If there is any doubt about the offerer's capability, the offerer will be required to submit a pre-qualification article. There is no guarantee of qualification by similarity. LILE reserves the right to require a pre-qualification article of all offerers.

2. The current acquisition need not and will not be delayed in order to provide an offerer with an opportunity to meet the requirements for qualification waiver.

3. Maximum time for approval of qualification by similarity will not exceed 30 days.

REVISION: *03*

ENGINEERING DATA LIST

* HISTORY *

DATE :	DATA TECH :	ORGN SYMBOL :	PR NR :	APPLICATION:	PAGE
04APR03	SDD	LGMPM		C-130	1 OF 1

CAGE:	MANUFACTURER NAME:	REFERENCE NR:	NOUN :	NSN :
98897	LOCKHEED MARTIN	388046-9	CYLINDER AND PISTON	1620012703196

CAGE	DRAWING NUMBER	REV	NR SHEETS	NR CARDS	FURN CODE	DIST CODE	NOUN	REQUIREMENTS
98897	388046 /	R	0001	0000	S		CYLINDER-SHOCK STRUT	
98897	337252 /	L	0001	0000	S		MLG CYLINDER (FORGING)	
98747	00-ALC/LGMPM /	B	0002	0000	S		ENGR DATA REQMTS ATTACHMENT "A"	

STANDARD ENGINEERING TEXT

ENGINEERING DATA LIST REMARKS

FURNISHED METHOD CODE LEGEND:

C - CLASSIFIED DOCUMENT.
S - FURNISHED WITH SOLICITATION.
M - STABLE BASE DRAWING REQUIRED; FURNISHED WITH CONTRACT AWARD.
X - DATA SUPPLIED (NOT IN EDCARS).
R - FURNISHED BY PCD UPON REQUEST.
P - PARTIAL DOCUMENT FURNISHED.
V - VENDOR DRAWING; (NOT PROVIDED).
G - GOV'T DOCUMENT.
O - OTHERS, CONTRACTOR MUST ACQUIRE.
A - DATA NOT AVAILABLE.

REV: B	ENGINEERING DATA REQUIREMENTS (ATTACHMENT "A")

NOTE: MILITARY SPECIFICATIONS I/STANDARDS WILL NOT BE FURNISHED IN THE BID SET.

1. THE FOLLOWING INSTRUCTIONS ARE FURNISHED FOR THE MANUFACTURE OF

Cylinder-Shock Strut, MLG, C-130 ACFT

2. PART NUMBER	3. NATIONAL STOCK NUMBER
388046-9	1620 01 270 3196

4. THE FOLLOWING SPECIFICATIONS/STANDARDS, ETC., WILL BE USED IN LIEU OF THE DATA INDICATED. THE SUPERSEDED DATA WILL NOT BE FURNISHED UNLESS SO INDICATED.

5. OO-ALC/LILE System Engineering retains all rights to review and accept/reject MRB's prior to shipment of discrepant items. All deviations, minor or major, from the Engineering Drawing Package will be submitted for MRB disposition.

6. Prior to contract award, the contractor will certify to the government in writing, full compliance with manuals, specifications, and standards called out and required for the manufacture of this contracted landing gear component/assembly. Contractor is responsible to completely search these manuals, specifications, and standards and fully understand the requirements necessary to manufacture landing gear components. Any questions can be forwarded to this office OO-ALC/LILE.

7. Identification and Marking in area noted per MIL-STD-130, Impression Stamping Not Permitted, in lieu of LAC 0227.

8. Serial Number shall be vibropeened (with a vibrating pneumatic pencil), in 0.09" letters 0.004"-0,007" deep in the location indicated. If the drawing does not indicate a location, OO-ALC/LILE shall provide S/N location instructions. Serialization of items shall be accomplished as follows: the serialization shall begin with the CAGE (FSCM) of the contractor named on the contract, followed by a dash and the 2 digit year of manufacture, followed by a dash and a sequentially unique 3 digit number. A contractor who receives numerous intermittent contracts shall start serialization of items with the next number in sequence of the prior contract. If a contract produces more than 999 items, the serial number shall begin using a 4 digit serial number. The serial number shall appear like this: "S/N 98747-00-001".

9. Material: 4340 VAR Steel per SAE AMS 6414 in lieu of MIL-S-8844, Class 1, Cond E.

10. Finish in lieu of LAC 0471 and LAC G14 codes 54-36-36:

A. For 54, apply one coat of Epoxy Waterborne Primer per MIL-PRF-85582, Type I, Class 2 . Alternate primer, one coat Epoxy- Polymide per MIL-PRF-23377, Type I.

B. For 36-36, Apply two top coats Polyurethane per MIL-PRF-85285, Type I, Color #17925 (White) per FED-STD-595.

11. Titanium Cadmium Plate per MIL-STD-1500, Type II, Class 2, as noted, in lieu of STP 58-005.

12. Heat Treat to 260-280 KSI per SAE AMS-H-6875.

13. On parts heat treated 180 KSI and above, any surface ground/machined after heat treat will be Nital Etch inspected for burns per MIL-STD-867. Grinding will be per MIL-STD-866.

14. Perform MAGNETIC PARTICLE INSPECTION per ASTM E1444 in lieu of LAC 0565. Use full wave direct current (FWDC),wet continuous method, fluorescent type. This inspection shall have the following acceptance/rejection criteria: NO DEFECTS ALLOWED. The intent of NO DEFECTS ALLOWED is that the inspection is conducted at the required sensitivity level and there shall be no indications allowed. The inspector performing the inspection will be certified to the Level II with the inspection procedure developed by a Level III as specified in NAS-410.

PREPARED BY	SYMBOL	DATE
Dave Dodd	LGMPM	13 Feb 03

REV: B	ENGINEERING DATA REQUIREMENTS CONTINUATION SHEET *(ATTACHMENT "A")*

PART NUMBER	NATIONAL STOCK NUMBER
388046-9	1620 01 270 3196

15. Threads per MIL-S-8879, Safety Critical.

16. Shot Peen exterior surfaces per SAE AMS-S-13165, .009/.012 AZ Intensity. 200% Coverage.

17. LAC G220 and drawing 363174 are not required to manufacture.

18. FORGING REQUIREMENTS:

A. The forging shall be procured from the original forging source using the original certified forging procedures and dies/tooling.

1. Prior to contract award, the detailed part bidder shall provide certification, from the forging source, to the government that the certified dies and forging procedures are available and the forging source has an agreement with the detail parts bidder to provide forgings for their use in the event they are the successful bidder.

2. Prior to production, forging lot qualification shall be accomplished as specified on the forging drawing and SAE AMS-F-7190 in lieu of LAC 0562. The detailed part contractor will assure that this has been accomplished by the forging source and will submit certified documentation of accomplishment to the government.

B. The forging source for P/N 337252 is,

1. Die# 7956 and 7626 are at Kropp Forge.
   5301 West Roosevelt Rd
   Cicero, IL 60804

   Die# 7956 is controlled by the USAF. Die# 7626 is controlled by Goodrich.

2. Die# 1334-50 is at Interstate Forging.
   Interstate Drive
   Novasota, TX 77768

   Die# 1334-50 is controlled by Heroux.

3. Die# 4122 is at Park Drop Forge.
   777 East 79th St
   Cleveland, OH 44103

   Die# 4122 is controlled by Goodrich.

PREPARED BY	SYMBOL	DATE
Dave Dodd	LGMPM	13 Feb 03

SOURCE QUALIFICATION REQUIREMENTS
(PL98-525, SECTION 2319)

STOCK NR (NSN): 1620 01 270 3196 — PART NUMBER (P/N): 388046-9
NOUN: Cylinder-Shock Strut , MLG — AIRCRAFT: C-130

SECTION C

QUALIFICATION REQUIREMENTS THAT MUST BE SATISFIED TO BECOME A QUALIFIED SOURCE:

1. Because of the need for uninterrupted item support to military aircraft systems while keeping with the requirements of PL 98-525, the current acquisition need not and generally will not be delayed to provide an offeror an opportunity to qualify. Normal acquisition practices at OO-ALC should preclude the denial of opportunity to any interested offeror.

2. The offeror must provide a pre-contract award qualification article, which meets the requirements of the engineering drawings, material specifications, and process specifications. However, successful completion of the qualification testing does not guarantee any contract award. If the offeror is deemed qualified and awarded the contract, a post-contract award first ariticle exhibit may be required to verify production capability.

3. The qualification article will be subjected to form, fit, and function verification as well as required testing to assure compliance with data list and other applicable procurement criteria. The qualification article shall demonstrate full compatibility and comparability with existing parts.

4. The required materials will be procured from a qualified source and shall meet the requirements of their respective specifications. The offeror will assure that the supplier has accomplished this and shall submit certified documentation of accomplishment of the above requirements to the purchaser along with the pre-contract award qualification article.

5. The required forgings shall be procured from the qualified forging source using the original certified forging procedures and dies. Forging material and lot qualifications shall be accomplished as required in the specified forging drawing, P/N 3372524 and specification MIL-F-7190. The offeror shall assure that this is or has been accomplished by the forging source and will submit certified documentation of accomplishment of the above requirements to the government along with the pre-contract award qualification article.

6. The qualification article once submitted will become subject to such testing as deemed necessary by the U.S. Government to prove that the article meets all dimensional, processing and functional requirements. Such testing may result in the destruction of the article. Following completion of necessary testing and evaluation, the article no matter what its condition shall be returned to the contractor or disposed of at his discretion and direction whether it was found acceptable or not.

7. Form verification: The U.S. Government's Quality Verification Center (QVC) will be used to insure compliance with the dimensional requirements of the article. Material and processing compliance will also be verified as required.

8. Fit/function verification: Existing components and government test stands and fixtures will be utilized to verify physical interface and functional performance of articles.

9. Testing for material and process compliance.

(a) Material analysis
(b) Heat treat
(c) Grinding
(d) Plating
(e) Finish
(f) Grain flow
(g) Other

SOURCE QUALIFICATION REQUIREMENTS
(PL98-525, SECTION 2319)

STOCK NR (NSN):,1620 01 270 3196 PART NUMBER (P/N: 388046-9
NOUN: Cylinder-Shock Strut , MLG AIRCRAFT:C-130

10. Remarks:

a. Organic verification capabilities exist at OO-ALC.

b. Testing requirements outside organic capabilities will be contracted out.

11. The estimated cost of government testing and evaluation is $ 1500.00

12. Maximum time for testing of the qualification article will not exceed 45 days from receipt at testing agency.

SECTION D

QUALIFICATION WAIVER REQUIREMENTS.

1. An offerer who has had previous experience in the manufacture and qualification of items, which can be correlated with this product, may apply to the design control authority at OO-ALC for a waiver of the above stated qualification requirements.

a. The qualification waiver criteria utilized by the design control authority to perform a qualification analysis are available upon request. The qualification waiver criteria may be used as a guide in preparing the offerer's written input to the design control authority.

b. The burden of proof for written inputs is on the offerer. The design control authority will not pursue authenticity verification of claims made by the offerer of product manufacturing experience with other Government or non-Government agencies. Unsubstantiated claims will not be considered in the waiver analysis process.

c. This waiver will be granted if and only if the design control authority (LILE) can establish the qualifications of the offerer through the evaluation of written inputs from the offerer or from previous knowledge of the offerer's capabilities or from previous experience with the offerer on similar item acquisitions. If there is any doubt about the offerer's capability, the offerer will be required to submit a pre-qualification article. There is no guarantee of qualification by similarity. LILE reserves the right to require a pre-qualification article of all offerers.

2. The current acquisition need not and will not be delayed in order to provide an offerer with an opportunity to meet the requirements for qualification waiver.

3. Maximum time for approval of qualification by similarity will not exceed 45 days.

REVISION: *05*

ENGINEERING DATA LIST

* HISTORY *

DATE :	DATA TECH :	ORGN SYMBOL :	PR NR :	APPLICATION:	PAGE
23JUL02	SOH	LGMPM		C-5	1 OF 1

CAGE:	MANUFACTURER NAME:	REFERENCE NR:	NOUN :	NSN :
98897	LOCKHEED MARTIN	4G11415-107C	CYLINDER ASSY,STRUT	1620004463776

CAGE	DRAWING NUMBER	REV	NR SHEETS	NR CARDS	FURN CODE	DIST CODE	NOUN	REQUIREMENTS
98897	DS 30001 /		0000	0000	S		DESIGN STD.	
98897	LAC 0701 /		0000	0000	S		MACHINING SPEC.	
98897	4G11415 /	W	0003	0000	S		CYLINDER OUTER.	THIS DRAWING MUST BE RETRIEVED FROM BOTH WR-ALC AND OO-ALC TO GET A COMPLET
								DRAWING SET (ALL 3) SHEETS OF 4G11415.
98897	77C353 /		0001	0000	S		ECO	
98897	87C679 /		0001	0000	S		ECO	
98897	4G13382 /	F	0001	0000	S		BUSHING	
98897	4G13385 /	B	0001	0000	S		BUSHING.	
98897	4G13400 /	L	0002	0000	S		FORGING.	
98897	4G13588 /	G	0001	0000	S		BUSHING.	
98897	4G13591 /	E	0001	0000	S		BEARING.	
98897	4G13611 /	C	0001	0000	S		BEARING.	
98897	4G13612 /	F	0001	0000	S		BEARING.	
98897	4G13672 /	D	0001	0000	S		BUSHING.	
98897	4G13673 /	G	0001	0000	S		BUSHING.	
98897	4G13675 /	G	0001	0000	S		BEARING.	

STANDARD ENGINEERING TEXT

ENGINEERING DATA LIST REMARKS

FURNISHED METHOD CODE LEGEND:

C - CLASSIFIED DOCUMENT.
S - FURNISHED WITH SOLICITATION.
M - STABLE BASE DRAWING REQUIRED; FURNISHED WITH CONTRACT AWARD.
X - DATA SUPPLIED (NOT IN EDCARS).
R - FURNISHED BY PCD UPON REQUEST.
P - PARTIAL DOCUMENT FURNISHED.
V - VENDOR DRAWING; (NOT PROVIDED).
G - GOV'T DOCUMENT.
O - OTHERS, CONTRACTOR MUST ACQUIRE.
A - DATA NOT AVAILABLE.

REV:	ENGINEERING DATA REQUIREMENTS *(ATTACHMENT "A")*

NOTE: MILITARY SPECIFICATIONS I/STANDARDS WILL NOT BE FURNISHED IN THE BID SET.

1. THE FOLLOWING INSTRUCTIONS ARE FURNISHED FOR THE MANUFACTURE OF

CYLINDER, OUTER - STRUT ASSY, MLG ASSY, OF

2. PART NUMBER	3. NATIONAL STOCK NUMBER
4G11415-107C	1620 00 446 3776

4. THE FOLLOWING SPECIFICATIONS/STANDARDS, ETC., WILL BE USED IN LIEU OF THE DATA INDICATED. THE SUPERSEDED DATA WILL NOT BE FURNISHED UNLESS SO INDICATED.

a. Machine to meet drawing requirements per LAC 0701, in lieu of DS 30003.

b. Identify to meet drawing requirements and MIL-STD-130 with the following notes, in lieu of STP 63-001. Serial number shall be vibropeened, in the location indicated. If the drawing does not indicate a location, OO-ALC/LILE will provide S/N location instructions. Serialization of item shall be accomplished as follows: The serialization will begin with the CAGE of the contractor named on the contract, followed by a dash and the two (2) digit year of manufacture, followed a dash and a sequentially unique three (3) digit number. A contractor who receives numerous intermittent contracts will start serialization of item with the next number in sequence of the prior contract. If a contract produces more than 1000 items, the serial number should appear like this: "S/N 98747-02-001"

c. Magnetic particle inspection per ASTM E1444, in lieu of MIL-I-6868. Use fluorescent type, full wave direct current (FWDC), and wet continuous method. With the following acceptance/rejection criteria: NO DEFECTS ALLOWED. The intent of NO DEFECTS ALLOWED is that the inspection is conducted at the required sensitivity level and there shall be no indications allowed. The inspector performing the inspection shall be level II certified, with the inspection procedure developed by a level III, as specified in NAS-410.

d. Penetrant inspect per ASTM E1417, Type I, Method B or C, Level 3 or 4, in lieu of STP 53-201. With the following acceptance/rejection criteria: NO DEFECTS ALLOWED. The intent of NO DEFECTS ALLOWED is that the inspection is conducted at the required sensitivity level and there shall be no indications allowed. The inspector performing the inspection shall be level II certified, with the inspection procedure developed by a level III as specified in NAS-410.

e. Shot peen to meet drawing requirements per SAE AMS-S-13165, in lieu of STP 51-501.

f. Heat treat, normalize, stabilize, and anneal, per SAE AMS-H-6875; in lieu of STP 54-006.

g. Any surface ground/machined after heat treat, shall be inspected for abusive grinding/machining burns per MIL-STD- 867, Grinding shall be per MIL-STD-866.

5. The following changes have been made in materials and specifications required.

a. Use SAE AMS 4881, in lieu of AMS 4881. Alternate material use SAE AMS 4590, in lieu of AMS 4590. (Ref. drawings 4G13673, and 4G13675)

b. Use SAE AMS 4881, in lieu of AMS 4881. (Ref. drawings 4G13382, 4G13591, and 4G13672)

c. Use ASTM B196 Alloy C95410, in lieu of QQ-B-671. (Ref. drawing 4G13588)

PREPARED BY	SYMBOL	DATE
ORIN HATCH	LGMPM	30 Apr 02

d. Use ASTM B196, in lieu of QQ-C-530, and SAE AMS 4881, in lieu of AMS 4881. (Ref. drawing 4G13385)

e. Use ASTM B150 alloy C63000, in lieu of QQ-C-465, alternate material use ASTM B271 Alloy C95400, in lieu of QQ-C-390. (Ref. drawing 4G13612)

f. Use ASTM B196 Alloy 17300 Temper TF00, in lieu of QQ-C-530. (Ref. drawing 4G13611)

g. Use SAE AMS 6257, in lieu of STM 05-501. (Ref. drawing 4G13400)

h. Assemble wet using TT-P-1757, in lieu of MIL-P-8585. Ref. drawing 4G11415)

6. Install bushings per the following for sub zero shrinkage requirements. (Ref. drawing 4G11415 note 33)

a. The bushing installation shall be accomplished in such a manner as to avoid damage to the finish on the I.D. of the housing into which the bushing is installed, or the finish on the O.D. of the bushing. Forced installation of sub-zero installation, such as the use of a press or hammer is not permitted, and is not acceptable. A small non-metallic hammer may be used to tap the bushing into alignment with the housing bore, or to seat the bushing.

b. Prior to bushing installation, the parts and housing bore shall be cleaned with a solvent to remove all contamination.

c. Liquid nitrogen shall be used for all sub-zero installations unless some other sub-zero coolant is specified, and approved by OO-ALC/LILE engineering. The soak time of the bushing in the liquid nitrogen shall be sufficient to allow the bushing to reach the same temperature as the coolant.

d. The bushing shall be installed into the housing immediatedly upon removal from the coolant with an absolute minimum lost time. Trial runs shall be accomplished as necessary to minimize installation time, which should be in the order of about seven (7) seconds maximum.

e. It may occasionally be necessary to heat the housing into which the bushing is to be installed, in addition to sub-zero cooling of the bushing. Detail parts in process, which do not have paint or sealant or other organic material applied prior to heating, the parts shall be heated by the use of radiant heat techniques, such as thermal blankets, infrared lamps etc; to the maximum temperature of 250 F. Temperature measuring devices shall be used to monitor heat and shall be located on areas of the part expected to reach maximum temperature. No scaling, oxidation, or corrosion shall be permitted.

f. The shrunken part shall be installed into the housing bore which has received a wet coat of TT-P-1757, zinc chromate primer which has been brush applied. The primer shall be applied to the bushing outer surface and the housing bore prior to installation, so as to insure complete sealing of gaps between the housing bore and the installed bushing as evidenced by extruded primer around the entire periphery of both ends of the bushing.

REV:	ENGINEERING DATA REQUIREMENTS CONTINUATION SHEET *(ATTACHMENT "A")*

PART NUMBER	NATIONAL STOCK NUMBER
4G11415-107C'	1620 00 446 3776

7. Drilling, reaming, and honing to meet drawing specifications, using best shop procedures and the following notes in lieu of STP 51-410.

   a. High speed steel (HSS) drills shall be used to drill corrosion resistant steels.

   b. HSS reamers will be used for rough reaming, and final reaming of steels heat treated below 200 KSI. Carbide or premium grade hi-speed tipped reamers will be used for rough reaming of steels heat treated above 200KSI.

   c. Honing stones shall be of 150 to 500 aluminum oxide grit with a medium-hard bond and preferably a multi-head stone. Heads with steel shoes or wipers shall not be used.

   d. Drilling shall never be used as a final machining operation. A minimum of 0.015 inch on diameter shall be left for final reaming. Holes shall be finished by reaming or boring. When jigs, fixtures, or bushings are not used for drilling holes larger than 1/4 inch, the holes will be piloted with a center drill. Chemical, electrical, or electrochemical hole producing methods shall not be used as a final surface producing method without prior approval from OO-ALC/LILE.

   e. Rough reaming, the reamer length shall be as short as consistent with required penetration. Final reaming, the diameter cut shall produce a hole that meets the requirements of the engineering drawing.

   f. Honing shall be used as a final operation where a surface finish better than 125 roughness height ratio is required, and cannot be produced by other means

   g. Carbide drills can be operated at higher speeds that HSS drills, but must be used with caution. Thay must not be used in dull or chipped condition.

8. Finish per the following in lieu of DS 30000, and finish code C, CC, D, 17, 54, and 74-74.

   a. Cadmium plate per MIL-STD-870, or QQ-P-416 to meet drawing requirements Class 2, Type II. (code C)

   b. Cadmium-titanium plate per MIL-STD-1500, or SAE AMS 2419, to meet drawing requirements Class 2, Type II. (code CC)

   c. Chromium plate per MIL-STD-1501, Type II, Class 1. (code D)

   d. Primer wash is not required for the manufacture of this item. (code 17)

   e. One coat of epoxy primer per MIL-PRF-85582, Type I, Class C 2. (code 54). Alternate, One coat of epoxy primer per MIL-PRF-23377, Type I.

   f. Two coats of top coat per MIL-PRF-85285, Type I. (color white, No. 17925 per FED-STD-595). (code 74-74)

PREPARED BY	SYMBOL	DATE
ORIN HATCH	LGMPM	30 Apr 02

REV:	ENGINEERING DATA REQUIREMENTS CONTINUATION SHEET *(ATTACHMENT "A")*

PART NUMBER	NATIONAL STOCK NUMBER
4G11415-107C '	1620 00 446 3776

9. The required forgings will be procured from the qualified forging source using the original certified forging procedures and dies.

   a. Prior to contract award, the detail part bidder will provide certification, from the forging source to the government, that the certified dies and forging procedures are available and that the forging source has an agreement with the detail part bidder to provide forgings for his use in the event that he is the successful bidder.

   b. Prior to production, forging lot qualification will be accomplished as specified on the forging drawing, and SAE AMS-F-7190. The contractor will assure that this is or has been accomplished by the forging source and will submit certified documentation of accomplishment to the government.

10. FORGING SOURCE, CONTROL AND LOCATION OF DIES:

   a. Forging drawing: 4G13400-991A Lockheed GA. CAGE 98897

   b. Control of froging: Bendix Corp.
   P.O.Box 10
   South Bend, IN 46624

   c. Location of froging dies: Wyman Gordon
   105 Madison St.
   Worcester, MA 01613

   d. Die number: 15330

11. Material Review Board disposition:

   a. OO-ALC/LILE system engineering retains all rights to review and accept MRB dispositions prior to shipment of discrepant item. All deviations, minor and major, from the engineering drawing package will be submitted for MRB disposition.

   b. Prior to contract award, the contractor will certify to the government in writing full compliance with manuals, specifications, and standards called out and required for the manufacture of this contracted landing gear component/ assembly. The contractor is responsible to completely search all required documents and fully understand the necessary requirements to manufacture the stated item. Any questions can be forwarded to this office OO-ALC/LILE

12. After contract award the successful bidder shall provide a copy of the processing documentation (routing documents and process specifications) to LILE for final review before production begins.

13. The following specifications are not required for manufatctre of this item.

   a. Fatigue test X998, Static test X999, and DS 5025.

   b. Flag notes 60 and 61 on drawing 4G11415 are not required.

PREPARED BY	SYMBOL	DATE
ORIN HATCH	LGMPM	30 Apr 02

SOURCE QUALIFICATION REQUIREMENTS
(PL98-525, SECTION 2319)

STOCK NR (NSN)1620-00-446-3776 PART NUMBER (P/N)4G11415
NOUN: Cylinder Assy Strut AIRCRAFT:C-5

SECTION C

QUALIFICATION REQUIREMENTS THAT MUST BE SATISFIED TO BECOME A QUALIFIED SOURCE:

1. Because of the need for uninterrupted item support to military aircraft systems while keeping with the requirements of PL 98-525, the current acquisition need not and generally will not be delayed to provide an offeror an opportunity to qualify. Normal acquisition practices at OO-ALC should preclude the denial of opportunity to any interested offeror.

2. The offeror must provide a pre-contract award qualification article, which meets the requirements of the engineering drawings, material specifications, and process specifications. However, successful completion of the qualification testing does not guarantee any contract award. If the offeror is deemed qualified and awarded the contract, a post-contract award first ariticle exhibit may be required to verify production capability.

3. The qualification article will be subjected to form, fit, and function verification as well as required testing to assure compliance with data list and other applicable procurement criteria. The qualification article shall demonstrate full compatibility and comparability with existing parts.

4. The required materials will be procured from a qualified source and shall meet the requirements of their respective specifications. The offeror will assure that the supplier has accomplished this and shall submit certified documentation of accomplishment of the above requirements to the purchaser along with the pre-contract award qualification article.

5. The required forgings shall be procured from the qualified forging source using the original certified forging procedures and dies. Forging material and lot qualifications shall be accomplished as required in the specified forging drawing, P/N 4G11415 and specification MIL-F-7190. The offeror shall assure that this is or has been accomplished by the forging source and will submit certified documentation of accomplishment of the above requirements to the government along with the pre-contract award qualification article.

6. The qualification article once submitted will become subject to such testing as deemed necessary by the U.S. Government to prove that the article meets all dimensional, processing and functional requirements. Such testing may result in the destruction of the article. Following completion of necessary testing and evaluation, the article no matter what its condition shall be returned to the contractor or disposed of at his discretion and direction whether it was found acceptable or not.

7. Form verification: The U.S. Government's Quality Verification Center (QVC) will be used to insure compliance with the dimensional requirements of the article. Material and processing compliance will also be verified as required.

8. Fit/function verification: Existing components and government test stands and fixtures will be utilized to verify physical interface and functional performance of articles.

9. Testing for material and process compliance.

(a) Material analysis
(b) Heat treat
(c) Grinding
(d) Plating
(e) Finish
(f) Grain flow
(g) Other

SOURCE QUALIFICATION REQUIREMENTS
(PL98-525, SECTION 2319)

STOCK NR (NSN)1620-00-446-3776 PART NUMBER (P/N)4G11415
NOUN: Cylinder Assy Strut AIRCRAFT:C-5

10. Remarks:

a. Organic verification capabilities exist at OO-ALC.

b. Testing requirements outside organic capabilities will be contracted out.

11. The estimated cost of government testing and evaluation is $4000.00.

12. Maximum time for testing of the qualification article will not exceed 30 days from receipt at testing agency.

SECTION D

QUALIFICATION WAIVER REQUIREMENTS.

1. An offerer who has had previous experience in the manufacture and qualification of items, which can be correlated with this product, may apply to the design control authority at OO-ALC for a waiver of the above stated qualification requirements.

a. The qualification waiver criteria utilized by the design control authority to perform a qualification analysis are available upon request. The qualification waiver criteria may be used as a guide in preparing the offerer's written input to the design control authority.

b. The burden of proof for written inputs is on the offerer. The design control authority will not pursue authenticity verification of claims made by the offerer of product manufacturing experience with other Government or non-Government agencies. Unsubstantiated claims will not be considered in the waiver analysis process.

c. This waiver will be granted if and only if the design control authority (LILE) can establish the qualifications of the offerer through the evaluation of written inputs from the offerer or from previous knowledge of the offerer's capabilities or from previous experience with the offerer on similar item acquisitions. If there is any doubt about the offerer's capability, the offerer will be required to submit a pre-qualification article. There is no guarantee of qualification by similarity. LILE reserves the right to require a pre-qualification article of all offerers.

2. The current acquisition need not and will not be delayed in order to provide an offerer with an opportunity to meet the requirements for qualification waiver.

3. Maximum time for approval of qualification by similarity will not exceed 15 days.

REVISION:

ENGINEERING DATA LIST

* HISTORY *

DATE :	DATA TECH :	ORGN SYMBOL :	PR NR :	APPLICATION:	PAGE
13FEB01	SOH	LGMPM		C5 ACFT	1 OF 1

CAGE:	MANUFACTURER NAME:	REFERENCE NR:	NOUN :	NSN :
98897	LOCKHEED MARTIN	4G51427-101A	PISTON,LANDING GEAR	1620004094739LE

CAGE	DRAWING NUMBER	REV	NR SHEETS	NR CARDS	FURN CODE	DIST CODE	NOUN	REQUIREMENTS
98897	4G51427 /	V	0002	0000	S		PISTON AXLE.	
98897	78C204 /		0001	0000	S		ECO	
98897	87C554 /		0001	0000	S		ECO	
98897	4G51404 /	L	0001	0000	S		FORGING.	
98897	4G53912 /	D	0001	0000	S		BUSHING.	
98897	DS 30001 /		0000	0000	S		DIMENSIONALL INSP.	
98897	LAC 0701 /		0000	0000	S		MACHINING SPEC.	
98747	OO-ALC/LGMPM /		0004	0000	S		ENGRG. DATA REQTS. (ATCH "A")	

STANDARD ENGINEERING TEXT

ENGINEERING DATA LIST REMARKS

FURNISHED METHOD CODE LEGEND:

C - CLASSIFIED DOCUMENT.
S - FURNISHED WITH SOLICITATION.
M - STABLE BASE DRAWING REQUIRED; FURNISHED WITH CONTRACT AWARD.
X - DATA SUPPLIED (NOT IN EDCARS).
R - FURNISHED BY PCD UPON REQUEST.
P - PARTIAL DOCUMENT FURNISHED.
V - VENDOR DRAWING; (NOT PROVIDED).
G - GOV'T DOCUMENT.
O - OTHERS, CONTRACTOR MUST ACQUIRE.
A - DATA NOT AVAILABLE

REV:	ENGINEERING DATA REQUIREMENTS
A	(ATTACHMENT "A")

NOTE: MILITARY SPECIFICATIONS I/STANDARDS WILL NOT BE FURNISHED IN THE BID SET.

1. THE FOLLOWING INSTRUCTIONS ARE FURNISHED FOR THE MANUFACTURE OF

PISTON, AXLE - STRUT ASSY. NLG ASSY. OF

2. PART NUMBER	3. NATIONAL STOCK NUMBER
4G51427-101A	1620 00 409 4739

4. THE FOLLOWING SPECIFICATIONS/STANDARDS, ETC., WILL BE USED IN LIEU OF THE DATA INDICATED. THE SUPERSEDED DATA WILL NOT BE FURNISHED UNLESS SO INDICATED.

a. Machine per LAC 0701, in lieu of DS 30003.

b. Identify to meet drawing requirements and MIL-STD-130 with the following notes, in lieu of STP 63-001. Serial number shall be vibropeened, or steel stamped, in 0.09" letters 0.004" - 0.007" deep in the location indicated. If the drawing does not indicate a location, OO-ALC/LILE will provide S/N location instructions. Serialization of item shall be accomplished as follows: The serialization will begin with the CAGE of the contractor named on the contract, followed by a dash and the two (2) digit year of manufacture, followed by a dash and a sequentially unique three (3) digit number. A contractor who receives numerous intermittent contracts will start serialization of item with the next number in sequence of the prior contract. If a contract produces more than 1000 items, the serial number should appear like this: "S/N 98747-95-001"

c. Heat treat per SAE AMS-H-6875, in lieu of STP 54-006, and STP 54-013. Any surface ground/machined after heat treat shall be inspected for burns per MIL-STD-867, grinding shall be per MIL-STD-866.

d. Magnetic particle inspection per ASTM E1444, in lieu of MIL-I-6868. Use fluorescent type, full wave direct current (FWDC), and wet ontinuous method. With the following acceptance/rejection criteria: NO DEFECTS ALLOWED. The intent of NO DEFECTS ALLOWED is that the inspection is conducted at the required sensitivity level and there shall be no indications allowed. The inspector performing the inspection shall be level II certified, with the inspection procedure developed by a level III, as specified in NAS-410.

e. Shot peen to meet drawing requirements per SAE AMS -S-13165, in lieu of STP 51-501.

f. Machine per SAE AS 33515-4, or SAE AS 5202-4, in lieu of AND 10050-4, and use SAE AS 5202-5 in lieu of AND 10071. (Ref. drawing 4G51427)

5. The following are material changes.

a. Use SAE AMS 6257, or SAE AMS 6419, 300M in lieu of STM 05-501. (Ref. drawing 4G51404)

b. Use SAE AMS 5643 17-4PH, in lieu of AMS 5643. (Ref. drawing 4G53912)

c. Use TT-P-1757, in lieu of MIL-P-8585.

PREPARED BY	SYMBOL	DATE
ORIN HATCH	LGMPM	9 Jan 03

REV: A	ENGINEERING DATA REQUIREMENTS CONTINUATION SHEET *(ATTACHMENT "A")*
PART NUMBER 4G51427-101A	NATIONAL STOCK NUMBER 1620 00 409 4739

6. Drilling, reaming, and honing to meet drawing specifications, using best shop procedures and the following notes in lieu of STP 51-410.

   a. High speed steel (HSS) drills shall be used to drill corrosion resistant steels.

   b. HSS reamers will be used for rough reaming, and final reaming of steels heat treated below 200 KSI. Carbide or premium grade hi-speed tipped reamers will be used for rough reaming of steels heat treated above 200 KSI.

   c. Honing stones shall be of 150 to 500 alumium oxide grit with a medium-hard bond and preferably a multi-head stone. Heads with steel shoes or wipers shall not be used.

   d. Drilling shall never be used as a final machining operation. A minimum of 0.015 inch on diameter shall be left for final reaming. Holes shall be finished by reaming or boring. When jigs, fixtures, or bushings are not used for drilling holes larger than 1/4 inch, the holes will be piloted with a center drill. Chemical, electrical, or electrochemical hole producing methods shall not be used as a final surface producing method without prior approval from OO-ALC/LILE.

   e. Rough reaming, the reamer length shall be as short as consistent with required penetration. Final reaming, the diameter cut shall produce a hole that meets the requirements of the engineering drawing.

   f. Honing shall be used as a final operation where a surface finish better than 125 roughness height ratio is required, and cannot be produced by other means.

   g. Carbide drills can be operated at higher speeds that HSS drills, but must be used with caution. Thay must not be used in dull or chipped condition.

7. Finish per the following in lieu of DS 30000, and finish codes C, CC, D, 46, 17, 54, and 74-74.

   a. Cadmium plate per MIL-STD-870, Class 3, Type II. (code C) (Ref. drawing 4G51427)

   b. Cadmium plate per MIL-STD-870, Class 2, Type II. (code CC) (Ref. drawing 4G51427)

   c. Chromium plate per MIL-C-1501, Type II, or III, Class 1. (code D) (Ref. drawing 4G51427)

   d. Use SAE AMS 27725, Polyurethane coating. (code 46) (Ref. drawing 4G51427)

   e. Primer wash is not required. (code 17)

   f. One coat of epoxy primer per MIL-P-85582, Type I, Class 2. (code 54). Alternate, One coat of epoxy primer per MIL-P-23377, Type I.

   g. Two coats of top coat per MIL-PRF-85285, Type I. (color white, No. 17925 per FED-STD-595). (code 74-74)

PREPARED BY	SYMBOL	DATE
ORIN HATCH	LGMPM	9 Jan 03

8. Lockheed identification number 4G94451, represents a specification comtrol type drawing for product qualification control. The following qualified product identification is provided. The contractor must certify that the qualified product was procured and used in the assembly. The product purchase order will satisfy this requirement.

   a. SCD 4G94451-101A, Bearing - Kneel Roller, the qualified product is P/N 90723, CAGE 09455, RBC Transport Dynamics Corp., 3131 Segerstrom Ave., Santa Ana, CA. 92074-5872

9. Install bushings per the following for sub zero shrinkag requirements.

   a. The bushing installation shall be accomplished in such a manner as to avoid damage to the finish on the I.D. of the housing into which the bushing is installed, or the finish on the O.D. of the bushing. Forced installation of sub-zero installation, such as the use of a press or hammer is not permitted, and is not acceptable. A small non-metallec hammer may be used to tap the bushing into alignment with the housing bore, or to seat the bushing.

   b. Prior to bushing installation, the parts and housing bore shall be cleaned with a solvent to remove all contamination.

   c. Liquid nitrogen shall be used for all sub-zero installations unless some other sub-zero coolant is specified, and approved by OO-ALC/LILE engineering. The soak time of the bushing in the liquid nitrogen shall be sufficient to allow the bushing to reach the same temperature as the coolant.

   d. The bushing shall be installed into the housing immediatedly upon removal form the coolant with an absolute minimum lost time. Trial runs shall be accomplished as necessary to minimize installation time, which should be in the order of about seven (7) seconds maximum.

   e. It may occasionally be necessary to heat the housing into which the bushing is to be installed, in addition to sub-zero cooling of the bushing. Detail parts in process, which do not have paint or sealant or other organic material applied prior to heating, the parts shall be heated by the use of radiant heat techniques, such as thermal blankets, infrared lamps etc; to the maximum temperature of 250 F. Temperature measuring devices shall be used to monitor heat and shall be located on areas of the part expected to reach maximum temperature. No scaling, oxidation, or corrosion shall be permitted.

   f. The shrunken part shall be installed into the housing bore which has received a wet coat of TT-P-1757, zinc chromate primer which has been brush applied. The primer shall be applied to the bushing outer surface and the housing bore prior to installation, so as to insure complete sealing of gaps between the housing bore and the installed bushing as evidenced by extruded primer around the entire periphery of both ends of the bushing

10. The required forgings will be procured from the qualified forging source using the original certified forging procedures and dies.

    a. Prior to contract award, the detail part bidder will provide certification, from the forging source to the government, that the certified dies and forging procedures are available and that the forging source has an agreement with the detail part bidder to provide forgings for his use in the event that he is the successful bidder.

    b. Prior to production, forging lot qualification will be accomplished as specified on the forging drawing, and MIL-F-7190. The contractor will assure that this is or has been accomplished by the forging source and will submit certified documentation of accomplishment to the government.

11. FORGING SOURCE, CONTROL AND LOCATION OF DIES:

    a. Forging drawing: 4G51404-991A Lockheed GA. CAGE 98897

    b. Control of forging: Bendix Brake and Strut Die number: 2573902
    3510 Westmoor St.
    P.O. Box 10
    South Bend, IN 36625

    c. Location of forging dies: Wyman Gordon Co. CAGE 79448

12. Material Review Board disposition:

    a. OO-ALC/LILE system engineering retains all rights to review and accept MRB dispositions prior to shipment of discrepant item. All deviations, minor and major, from the engineering drawing package will be submitted for MRB disposition.

    b. Prior to contract award, the contractor will certify to the government in writing full compliance with manuals, specifications, and standards called out and required for the manufacture of this contracted landing gear component/ assembly. The contractor is responsible to completely search all required documents and fully understand the necessary requirements to manufacture the stated item. Any questions can be forwarded to this offece OO-ALC/LILE

13. After contract award the successfull bidder shall provide a copy of the processing documentation (routing documents and process specifications) to LILE for final review before production begins.

14. The following specifications are not required for the manufacture of this item.

    a. DS 5025, Fatgue test X995, and Static test X999.

    b. Disregard flag notes 52, 54, 57, 58, and 61. (Ref. drawing 4G51427)

SOURCE QUALIFICATION REQUIREMENTS
(PL98-525, SECTION 2319)

STOCK NR (NSN)1620-00-409-4739
NOUN: Nose Piston Axle

PART NUMBER (P/N)4G51427-101A
AIRCRAFT:C-5

SECTION C

QUALIFICATION REQUIREMENTS THAT MUST BE SATISFIED TO BECOME A QUALIFIED SOURCE:

1. Because of the need for uninterrupted item support to military aircraft systems while keeping with the requirements of PL 98-525, the current acquisition need not and generally will not be delayed to provide an offeror an opportunity to qualify. Normal acquisition practices at OO-ALC should preclude the denial of opportunity to any interested offeror.

2. The offeror must provide a pre-contract award qualification article, which meets the requirements of the engineering drawings, material specifications, and process specifications. However, successful completion of the qualification testing does not guarantee any contract award. If the offeror is deemed qualified and awarded the contract, a post-contract award first ariticle exhibit may be required to verify production capability.

3. The qualification article will be subjected to form, fit, and function verification as well as required testing to assure compliance with data list and other applicable procurement criteria. The qualification article shall demonstrate full compatibility and comparability with existing parts.

4. The required materials will be procured from a qualified source and shall meet the requirements of their respective specifications. The offeror will assure that the supplier has accomplished this and shall submit certified documentation of accomplishment of the above requirements to the purchaser along with the pre-contract award qualification article.

5. The required forgings shall be procured from the qualified forging source using the original certified forging procedures and dies. Forging material and lot qualifications shall be accomplished as required in the specified forging drawing, P/N 4G51427-101A and specification MIL-F-7190. The offeror shall assure that this is or has been accomplished by the forging source and will submit certified documentation of accomplishment of the above requirements to the government along with the pre-contract award qualification article.

6. The qualification article once submitted will become subject to such testing as deemed necessary by the U.S. Government to prove that the article meets all dimensional, processing and functional requirements. Such testing may result in the destruction of the article. Following completion of necessary testing and evaluation, the article no matter what its condition shall be returned to the contractor or disposed of at his discretion and direction whether it was found acceptable or not.

7. Form verification: The U.S. Government's Quality Verification Center (QVC) will be used to insure compliance with the dimensional requirements of the article. Material and processing compliance will also be verified as required.

8. Fit/function verification: Existing components and government test stands and fixtures will be utilized to verify physical interface and functional performance of articles.

SOURCE QUALIFICATION REQUIREMENTS
(PL98-525, SECTION 2319)

STOCK NR (NSN)1620-00-409-4739 PART NUMBER (P/N)4G51427-101A
NOUN: Nose Piston Axle AIRCRAFT:C-5

9. Testing for material and process compliance.

(a) Material analysis
(b) Heat treat
(c) Grinding
(d) Plating
(e) Finish
(f) Grain flow
(g) Other

10. Remarks:

a. Organic verification capabilities exist at OO-ALC.

b. Testing requirements outside organic capabilities will be contracted out.

11. The estimated cost of government testing and evaluation is $5000.

12. Maximum time for testing of the qualification article will not exceed 30 days from receipt at testing agency.

SECTION D

QUALIFICATION WAIVER REQUIREMENTS.

1. An offerer who has had previous experience in the manufacture and qualification of items, which can be correlated with this product, may apply to the design control authority at OO-ALC for a waiver of the above stated qualification requirements.

a. The qualification waiver criteria utilized by the design control authority to perform a qualification analysis are available upon request. The qualification waiver criteria may be used as a guide in preparing the offerer's written input to the design control authority.

b. The burden of proof for written inputs is on the offerer. The design control authority will not pursue authenticity verification of claims made by the offerer of product manufacturing experience with other Government or non-Government agencies. Unsubstantiated claims will not be considered in the waiver analysis process.

c. This waiver will be granted if and only if the design control authority (LILE) can establish the qualifications of the offerer through the evaluation of written inputs from the offerer or from previous knowledge of the offerer's capabilities or from previous experience with the offerer on similar item acquisitions. If there is any doubt about the offerer's capability, the offerer will be required to submit a pre-qualification article. There is no guarantee of qualification by similarity. LILE reserves the right to require a pre-qualification article of all offerers.

2. The current acquisition need not and will not be delayed in order to provide an offerer with an opportunity to meet the requirements for qualification waiver.

3. Maximum time for approval of qualification by similarity will not exceed 15 days.

REVISION: *01*

ENGINEERING DATA LIST

* HISTORY *

DATE :	DATA TECH :	ORGN SYMBOL :	PR NR :	APPLICATION:	PAGE
06MAY03	SDA	LGMPM		F15	1 OF 1

CAGE:	MANUFACTURER NAME:	REFERENCE NR:	NOUN :	NSN :
76301	BOEING CO/MC DONNELL ACFT	68A450704-1003	PISTON,LINEAR ACTUA	1620010232138

CAGE	DRAWING NUMBER	REV	NR SHEETS	NR CARDS	FURN CODE	DIST CODE	NOUN	REQUIREMENTS
98747	00-ALC/LGMPM-FORM 462 /		0004	0000	S		ENG. DATA RQMNTS.(ATTACH."A")	
76301	PS 15063 /		0000	0000	S		PROCESS SPECIFICATION	OBTAIN DATA FROM WR-ALC (JEDMICS)
76301	PS 20018 /		0000	0000	S		PROCESS SPECIFICATION	OBTAIN DATA FROM WR-ALC (JEDMICS)
76301	PS 23041 /		0000	0000	S		PROCESS SPECIFICATION	OBTAIN DATA FROM WR-ALC (JEDMICS)
76301	ST4M139 /		0000	0000	S		BUSHING	OBTAIN DATA FROM WR-ALC (JEDMICS)
76301	68A450604 WITH P/L /		0002	0000	S		PISTON-FORGING N.L.G.	OBTAIN DATA FROM WR-ALC (JEDMICS)
76301	68A450675 WITH P/L /		0001	0000	S		PLUG,PISTON AXLE N.L.G.	OBTAIN DATA FROM WR-ALC (JEDMICS)
76301	68A450704 WITH P/L /		0003	0000	S		PISTON ASSEMBLY, N.L.G.	OBTAIN DATA FROM WR-ALC (JEDMICS)

STANDARD ENGINEERING TEXT

ALL GOVERNMENT/MILITARY SPECIFICATIONS AND STANDARDS WILL NOT BE FURNISHED.
TO OBTAIN THESE SPECS AND STDS WRITE TO:
DODSSP
BUILDING 4/SECTION D
700 ROBINS AVE.
PHILADELPHIA PA. 19111-5098
TELEPHONE: (215) 697-2179
FAX: (215) 697-1462 TO VIEW OR ORDER: HTTP://WWW.DODSSP.DAPS.MIL

ENGINEERING DATA LIST REMARKS

FURNISHED METHOD CODE LEGEND:

C - CLASSIFIED DOCUMENT.
S - FURNISHED WITH SOLICITATION.
M - STABLE BASE DRAWING REQUIRED; FURNISHED WITH CONTRACT AWARD.
X - DATA SUPPLIED (NOT IN EDCARS).
R - FURNISHED BY PCD UPON REQUEST.
P - PARTIAL DOCUMENT FURNISHED.
V - VENDOR DRAWING; (NOT PROVIDED).
G - GOV'T DOCUMENT.
O - OTHERS, CONTRACTOR MUST ACQUIRE.
A - DATA NOT AVAILABLE.

REV:	ENGINEERING DATA REQUIREMENTS (ATTACHMENT "A")

NOTE: MILITARY SPECIFICATIONS I/STANDARDS WILL NOT BE FURNISHED IN THE BID SET.

1. THE FOLLOWING INSTRUCTIONS ARE FURNISHED FOR THE MANUFACTURE OF

PISTON ASSEMBLY, NOSE LANDING GEAR F-15

2. PART NUMBER	3. NATIONAL STOCK NUMBER
68A450704-1003	1620-01-023-2138

4. THE FOLLOWING SPECIFICATIONS/STANDARDS, ETC., WILL BE USED IN LIEU OF THE DATA INDICATED. THE SUPERSEDED DATA WILL NOT BE FURNISHED UNLESS SO INDICATED.

5. Use Material SAE AMS 6419 in lieu of AMS 6419, DRAWING 68A450604 (FORGING).

6. Mark & Identify per MIL-STD-130, as an alternate to PS 16001.

7. For large assemblies and components utilize the following statement in lieu of PS 16001) Serial number shall be vibropeened, or steel stamped, in 0.09" letters 0.004"-0.007" deep in the location indicated. If the drawing does not indicate a location, OO-ALC/LGHLEN will provide S/N location instructions. Serialization of item shall be accomplished as follows: The serialization will begin with the CAGE of the contractor named on the contract, followed by a dash and the 2 digit year of manufacture, followed by a dash and a sequentially unique 3 digit number. A contractor who receives numerous intermittent contracts will start serialization of item with the next number in sequence of the prior contract. If a contract produces more than 999 items, the serial number should begin using 4 digit serial numbers. The serial number should appear like this: " S/N 98747-03-001."

8. Inspection requirements are as follows:

   A. Perform Magnetic particle inspection per ASTM E1444 in lieu of PS 21201. Use full wave direct current (FWDC), wet continuous method, fluorescent type with the following acceptance/rejection criteria: NO DEFECTS ALLOWED. The intent of NO DEFECTS ALLOWED is that the inspection is conducted at the required sensitivity level and there shall be no indications allowed. The inspector performing the inspection shall be certified to Level II with the inspection procedure developed by a Level III as specified in NAS-410.

   B. Perform fluorescent penetrant inspection per ASTM E1417, Type I, Method B or C, Level 3 or 4) in lieu of PS 21202 with the following acceptance/rejection criteria: NO DEFECTS ALLOWED. The intent of "NO DEFECTS ALLOWED" is that the inspection is conducted at the required sensitivity level and there will be no indications allowed. The inspector performing the inspection shall be certified to Level II with the inspection procedures developed by a Level III as specified in NAS 410.

   C. Ultrasonic Inspection per MIL-STD-2154 may be used as an alternate to PS 21211.1, DRAWING 68A450704(Note 30).

9. Threads per MIL-S-7742. (SAFETY CRITICAL)

10. Shot Peen per SAE AMS -S-13165 as an alternate to PS 14023, all requirements of Drawing 68A450704 (Note 22) will be accomplished.

11. Heat Treat Steel per SAE AMS-H-6875 as an alternate to PS 15296.

12. For parts Heat-Treated to 180 KSI and above, any surface that is ground/machined after heat treat, shall be inspected for abusive grinding/machining burns per MIL-STD-867. Grinding shall be per MIL-STD-866.

PREPARED BY	SYMBOL	DATE
DAVID H. ARGYLE	LGMPM	21 May 03

REV:	ENGINEERING DATA REQUIREMENTS CONTINUATION SHEET *(ATTACHMENT "A")*

PART NUMBER	NATIONAL STOCK NUMBER
68A450704-1003	1620-01-023-2138

13. Temper Etch per MIL-STD-867 as an alternate to PS 21205.

14. Low Embrittlement Cadmium Plate per MIL-STD-870 (Type II, Class2) as an alternate to PS 13144 (Type II, Class 2).

15. Chromium Plate per MIL-STD-1501 (Type II, Class 3) as an alternate to PS 13102.

16. Finish Specification 68A900000 and 40M114 will not be furnished. Finish per the following as an alternate to (Note 27, Drawing 68A450704) and PS 13646:

    1. Apply one coat Epoxy Waterborne primer per MIL-PRF-85582, Type I, Class 2. Alternate primer, one coat Epoxy-Polamide per MIL-PRF-23377, Type I.

    2. Apply two topcoats of Polyurethane per MIL-PRF-85285, Type I, color #17925 (White) per FED-STD-595.

17. After contract award the successful bidder shall provide a copy of the processing documentation (routing documents and process specifications) to LGHLEN for final review before production begins.

18. OO-ALC/LGHLEN system engineering retains all rights to review and accept MRB'S prior to shipment of discrepant items, All deviations, minor and major, from the engineering drawing package will be submitted for MRB disposition.

19. Prior to contract award, the contractor will certify to the government in writing, full compliance with manuals, specifications, and standards called out and required for the manufacture of this contracted landing gear component/assembly. Contractor is responsible to completely search these manuals, specifications, and standards and fully understand the requirements necessary to manufacture landing gear components. Any questions can be forwarded to this office, OO-ALC/LGHLEN.

PREPARED BY	SYMBOL	DATE
DAVID H. ARGYLE	LGMPM	21 May 03

20. Install Bushings per the following, as an alternate to PS 17034:

A. The bushing installations shall be accomplished in such a manner as to avoid damage to the finish on the I.D. of the housing into which the bushing is installed, or the finish of the O.D. of the bushing. Forced installation of sub-zero installations, such as the use of a press or hammer is not permitted, and is not acceptable. A small non-metallic hammer may be used to tap the bushing into alignment with the housing bore, or to seat the bushing.

B. Prior to bushing installation, the parts and housing bore shall be cleaned with a cleaning solvent to remove all contamination.

C. Liquid nitrogen shall be used for all sub-zero installations unless some other sub-zero coolant is specified, and approved by OO-ALC/LILE Engineering. The soak time of the bushing in the liquid nitrogen shall be sufficient to allow the bushing to reach the same temperature as the coolant.

D. The bushing shall be installed into the housing immediately upon removal from the coolant with an absolute minimum of lost time. Trial runs shall be accomplished as necessary to minimize installation time which should be in the order of about seven (7) seconds maximum.

E. It may occasionally be necessary to heat the housing into which the bushing is to be installed, in addition to sub-zero cooling of the bushing. Detail parts in process, which do not have paint or sealant or other organic material applied prior to heating, shall be heated by the use of radiant heat techniques, such as thermal blankets, infrared lamps etc.; to the maximum temperature of 250 F.Temperature measuring devices shall be used to monitor heat and shall be located on areas of the part expected to reach maximum temperature. No scaling oxidation, or corrosion shall be permitted.

F. Bushings without flanges shall be installed into housing bore which has received a light coat of sealant per MIL-PRF-81733. Install shrunken bushing and wipe off any excess sealant that may have extruded aroumd the periphery of both ends of the bushings.

G. Bushings with flanges shall be installed in a similar manner as paragraph (F). Except sealant shall also be applied to face of lug under flange. Sealant shall be applied in such a manner as to ensure complete coverage of inside face of bushing flange when bushing is installed. Wipe off any excess sealant around periphery of bushing flange forming a bead. Wipe any excess sealant from the other end of the bushing also.

H. For bushings with external grease grooves the inside of the lug will be coated with MIL-C-16173 prior to bushing installation, and face of lug will be coated with MIL-PRF-81733 per paragraph G.

REV:	ENGINEERING DATA REQUIREMI CONTINUATION SHEET (ATTACHMEN, "A")
PART NUMBER	NATIONAL STOCK NUMBER
68A450704-1003	1620-01-023-2138

21. Per Drawing requirements Steel Forging Cleanliness per SAE AMS 2300 in lieu of AMS 2300.

22. Per Drawing requirements Accptance and Inspection of forgings per SAE AMS -F-7190 as an alternate to PS 23006.

23. The required forging shall be procured from the qualified forging source, using the original certified forging procedures and dies/tooling.

    A. Prior to contract award, the detail part bidder shall provide certification, from the forging source, to the Government that the certified dies and procedures are available and that the forging source has an agreement with the detail parts bidder to provide forgings for their use in the event they are the successful bidder.

    B. Prior to production, forging lot qualification shall be accomplished as specified on the forging drawing and SAE AMS-F-7190 (STEEL). The detailed part contractor shall assure that this has been accomplished by the forging source and shall submit certified documentation of accomplishment to the Government.

24. FORGING SOURCE, CONTROL AND LOCATION OF DIES:

    1. Forging Drawing: 68A450604

    2. Die Number: 6745

    3. Control of Forging Process: McDonnel Douglas Corp.

    4. Location of Forging Dies: KROPP FORGE COMPANY
       5301 W. Roosevelt Road
       Cicero, IL 60650-1273
       PH. (708) 652-6691

25. INSTRUCTIONS FOR QUALIFICATION OF NEW FORGING SOURCE.

    Prior to contract award,the contractor will advise the government in writing of their intent to procure new forging dies and the proposed forging source. The contractor will not proceed to obtain new dies without the express consent of the government procuring agency. The government will have unlimited use of the dies developed under this contract. The contractor will inform the forging house in writing, at the same time the order for the dies is placed, that the government has unlimited use rights of the dies and forward a copy of this letter to the Contracting Officer.

PREPARED BY	SYMBOL	DATE
DAVID H. ARGYLE	LGMPM	21 May 03

SOURCE QUALIFICATION REQUIREMENTS
(PL98-525, SECTION 2319)

STOCK NR (NSN)1620010232138 PART NUMBER (P/N)68A450704-1003
NOUN: Piston assembly, NLG AIRCRAFT:F-15

SECTION C

QUALIFICATION REQUIREMENTS THAT MUST BE SATISFIED TO BECOME A QUALIFIED SOURCE:

1. Because of the need for uninterrupted item support to military aircraft systems while keeping with the requirements of PL 98-525, the current acquisition need not and generally will not be delayed to provide an offeror an opportunity to qualify. Normal acquisition practices at OO-ALC should preclude the denial of opportunity to any interested offeror.

2. The offeror must provide a pre-contract award qualification article, which meets the requirements of the engineering drawings, material specifications, and process specifications. However, successful completion of the qualification testing does not guarantee any contract award. If the offeror is deemed qualified and awarded the contract, a post-contract award first ariticle exhibit may be required to verify production capability.

3. The qualification article will be subjected to form, fit, and function verification as well as required testing to assure compliance with data list and other applicable procurement criteria. The qualification article shall demonstrate full compatibility and comparability with existing parts.

4. The required materials will be procured from a qualified source and shall meet the requirements of their respective specifications. The offeror will assure that the supplier has accomplished this and shall submit certified documentation of accomplishment of the above requirements to the purchaser along with the pre-contract award qualification article.

5. The required forgings shall be procured from the qualified forging source using the original certified forging procedures and dies. Forging material and lot qualifications shall be accomplished as required in the specified forging drawing, P/N 68A450604-2007 and specification SAE-AMS-H-6875. The offeror shall assure that this is or has been accomplished by the forging source and will submit certified documentation of accomplishment of the above requirements to the government along with the pre-contract award qualification article.

6. The qualification article once submitted will become subject to such testing as deemed necessary by the U.S. Government to prove that the article meets all dimensional, processing and functional requirements. Such testing may result in the destruction of the article. Following completion of necessary testing and evaluation, the article no matter what its condition shall be returned to the contractor or disposed of at his discretion and direction whether it was found acceptable or not.

7. Form verification: The U.S. Government's Quality Verification Center (QVC) will be used to insure compliance with the dimensional requirements of the article. Material and processing compliance will also be verified as required.

8. Fit/function verification: Existing components and government test stands and fixtures will be utilized to verify physical interface and functional performance of articles.

9. Testing for material and process compliance.

(a) Material analysis
(b) Heat treat
(c) Grinding
(d) Plating
(e) Finish
(f) Grain flow
(g) Other

SOURCE QUALIFICATION REQUIREMENTS
(PL98-525, SECTION 2319)

STOCK NR (NSN)1620010232138 PART NUMBER (P/N)68A450704-1003
NOUN: Piston assembly, NLG AIRCRAFT:F-15

10. Remarks:

a. Organic verification capabilities exist at OO-ALC.

b. Testing requirements outside organic capabilities will be contracted out.

11. The estimated cost of government testing and evaluation is $2000.

12. Maximum time for testing of the qualification article will not exceed 30 days from receipt at testing agency.

SECTION D

QUALIFICATION WAIVER REQUIREMENTS.

1. An offerer who has had previous experience in the manufacture and qualification of items, which can be correlated with this product, may apply to the design control authority at OO-ALC for a waiver of the above stated qualification requirements.

a. The qualification waiver criteria utilized by the design control authority to perform a qualification analysis are available upon request. The qualification waiver criteria may be used as a guide in preparing the offerer's written input to the design control authority.

b. The burden of proof for written inputs is on the offerer. The design control authority will not pursue authenticity verification of claims made by the offerer of product manufacturing experience with other Government or non-Government agencies. Unsubstantiated claims will not be considered in the waiver analysis process.

c. This waiver will be granted if and only if the design control authority (LGHLEN) can establish the qualifications of the offerer through the evaluation of written inputs from the offerer or from previous knowledge of the offerer's capabilities or from previous experience with the offerer on similar item acquisitions. If there is any doubt about the offerer's capability, the offerer will be required to submit a pre-qualification article. There is no guarantee of qualification by similarity. LGHLEN reserves the right to require a pre-qualification article of all offerers.

2. The current acquisition need not and will not be delayed in order to provide an offerer with an opportunity to meet the requirements for qualification waiver.

3. Maximum time for approval of qualification by similarity will not exceed 15 days.

4. The required forgings shall be procured from the qualified forging source using the original certified forging procedures and dies. The offeror must demonstrate that the forging vendor controlling the forging dies and tooling will give the offeror unrestricted access.

REVISION: *02*

ENGINEERING DATA LIST

* HISTORY *

DATE :	DATA TECH :	ORGN SYMBOL :	PR NR :	APPLICATION:	PAGE
08FEB02	STJ	LGMPM		F15	1 OF 1

CAGE:	MANUFACTURER NAME:	REFERENCE NR:	NOUN :	NSN :
76301	BOEING	68A412704-1004	PISTON,LANDING GEAR	1620014451436

CAGE	DRAWING NUMBER	REV	NR SHEETS	NR CARDS	FURN CODE	DIST CODE	NOUN	REQUIREMENTS
76301	MMS224 /		0000	0000	S		MATERIAL SPECIFICATION	OBTAIN DATA FROM WR-ALC JEDMICS.
76301	PS 11005 /	K	0000	0000	S		BONDING OF ETCH TEFLON	OBTAIN DATA FROM WR-ALC JEDMICS.
76301	PS 15063 /	H	0000	0000	S		STRESS RELIEVE	OBTAIN DATA FROM WR-ALC JEDMICS.
76301	PS 15500 /		0000	0000	S		GENERAL HEAT TREATING	OBTAIN DATA FROM WR-ALC JEDMICS.
76301	PS 15548 /	J	0000	0000	S		AGE HARDEN	OBTAIN DATA FROM WR-ALC JEDMICS.
76301	PS 17165 /	M	0000	0000	S		ETCHING FOR BONDING SURFACE	OBTAIN DATA FROM WR-ALC JEDMICS.
76301	PS 23041 /	N	0000	0000	S		MACHINE FINISH	OBTAIN DATA FROM WR-ALC JEDMICS.
76301	68A410636 W/PL /	C	0000	0000	S		BUSHING, FLANGED, TORQUE ARM LUG	OBTAIN DATA FROM WR-ALC JEDMICS.
76301	68A412704 W/PL /	F	0000	0000	S		PISTON ASSEMBLY MLG	OBTAIN DATA FROM WR-ALC JEDMICS.
	/18EO							ECO A497011
	/19EO							ECO A197563
	/20EO							ECO A183099
76301	68A413711 W/PL /	A	0000	0000	S		PAD-BRAKE LINE	OBTAIN DATA FROM WR-ALC JEDMICS.
76301	68B410067 W/PL /	B	0000	0000	S		HEAD, PISTON MLG	OBTAIN DATA FROM WR-ALC JEDMICS.

STANDARD ENGINEERING TEXT

ALL GOVERNMENT/MILITARY SPECIFICATIONS AND STANDARDS WILL NOT BE FURNISHED.
TO OBTAIN THESE SPECS AND STDS WRITE TO:
DODSSP
BUILDING 4/SECTION D
700 ROBINS AVE.
PHILADELPHIA PA. 19111-5098
TELEPHONE: (215) 697-2179
FAX: (215) 697-1462
TO VIEW OR ORDER: HTTP://WWW.DODSSP.DAPS.MIL

ENGINEERING DATA LIST REMARKS

FURNISHED METHOD CODE LEGEND:

C - CLASSIFIED DOCUMENT.
S - FURNISHED WITH SOLICITATION.
M - STABLE BASE DRAWING REQUIRED; FURNISHED WITH CONTRACT AWARD.
X - DATA SUPPLIED (NOT IN EDCARS).
R - FURNISHED BY PCD UPON REQUEST.
P - PARTIAL DOCUMENT FURNISHED.
V - VENDOR DRAWING; (NOT PROVIDED).
G - GOV'T DOCUMENT.
O - OTHERS, CONTRACTOR MUST ACQUIRE.
A - DATA NOT AVAILABLE.

REV:	ENGINEERING DATA REQUIREMENTS (ATTACHMENT "A")

NOTE: MILITARY SPECIFICATIONS I/STANDARDS WILL NOT BE FURNISHED IN THE BID SET.

1. THE FOLLOWING INSTRUCTIONS ARE FURNISHED FOR THE MANUFACTURE OF

PISTON ASSEMBLY MLG F-15

2. PART NUMBER	3. NATIONAL STOCK NUMBER
68A412704-1004	1620-01-445-1436

4. THE FOLLOWING SPECIFICATIONS/STANDARDS, ETC., WILL BE USED IN LIEU OF THE DATA INDICATED. THE SUPERSEDED DATA WILL NOT BE FURNISHED UNLESS SO INDICATED.

a. OO-ALC/LILE system engineering retains all rights to review and accept MRB'S prior to shipment of discrepant items. All deviations, minor and major, from the engineering drawing package will be submitted for MRB disposition.

b. Prior to contract award, the contractor will certify to the government in writing full compliance with manuals, specifications, and standards called out and required for the manufacture of this contracted landing gear component/assembly. Contractor is responsible to completely search these manuals, specifications, and standards and fully understand the requirements necessary to manufacture landing gear components. Any questions can be forwarded to this office OO-ALC/LILE.

c. Inspection requirements are as follows:

1. Perform fluorescent penetrant inspection per ASTM E1417, Type I, Method B or C, Level 3 or 4, in lieu of PS 21202 Class A, with the following acceptance/rejection criteria: NO DEFECTS ALLOWED. The intent of "NO DEFECTS ALLOWED" is that the inspection is conducted at the required sensitivity level and there shall be no indication allowed. The inspector performing the inspection shall be certified to level II with the inspection procedures developed by a level III as specified in MIL-STD-410.
2. Perform Magnetic Particle inspection per ASTM E1444, in lieu of PS 21201 CLASS B. Use full wave direct current (FWDC), wet continuous method, fluorescent type with the following acceptance/rejection criteria: NO DEFECTS ALLOWED. The intent of "NO DEFECTS ALLOWED" is that the inspection is conducted at the required sensitivity level and there shall be no indications allowed. The inspector performing the inspection shall be certified to Level II with the inspection procedures developed by a Level III as specified in NAS 410.

d. Mark and identify per MIL-STD-130 as an alternate to PS16001. (ref. note #19)

e. Heat treat to drawing specifications per MIL-STD-6875 as an alternate to PS 15296 or PS 15351.

f. (For large assemblies and components utilize the following statement in lieu of PS 16001) Serial number shall be vibropeened (with vibrating pneumatic pencil), in 0.09" letters 0.004"-0.007" deep in the location indicated. If the drawing does not indicate a location, OO-ALC/LILE shall provide S/N location instructions. Serialization of item shall be accomplished as follows: the serialization shall begin with the cage (FSCM) of the contractor named on the contract, followed by a dash and the 2 digit year of manufacture, followed by a dash and a sequentially unique 3 digit number. A contractor who receives numerous intermittent contracts shall start serialization of item with the next number in sequence of the prior contract. If a contract produces more than 999 items, the serial number should begin using 4 digit serial numbers. The serial number should appear like this: "S/N 98747-01-001".

g. For parts heat-treated to 180KSI and above, any surface ground/machined after heat treat, shall be inspected for abusive grinding/machining burns per MIL-STD-867. Grinding shall be per MIL-STD-866.

h. Temper Etch per MIL-STD-867 may be used as an alternate to PS 21205.

i. Cadmium Plate per MIL-STD-870 Type II, Class 2 as an alternate to PS 13144 13101 & PS 13144.

PREPARED BY	SYMBOL	DATE
TERRY L. JONES	LGMPM	19 Nov 01

REV:	ENGINEERING DATA REQUIREME ...NTINUATION SHEET (ATTACHMENT "A")

PART NUMBER	NATIONAL STOCK NUMBER
68A412704-1004	1620-01-445-1436

j. Chromium Plate per MIL-STD-1501, Type II, Class 3 as an alternate to PS 13102.

k. Install bushings per the following in lieu of PS 17034.

a. The bushing installations shall be accomplished in such a manner as to avoid damage to the finish on the I.D. of the housing into which the bushing is installed, or the finish of the O.D. of the bushing. Forced installation of sub-zero installations, such as the use of a press or hammer is not permitted, and is not acceptable. A small nonmetallic hammer may be used to tap the bushing into alignment with the housing bore, or to seat the bushing.

b. Prior to bushing installation, the parts and housing bore shall be cleaned with a cleaning solvent to remove all contamination.

c. Liquid nitrogen shall be used for all sub-zero installations unless some other sub-zero coolant is specified, and approved by OO-ALC/LILEC engineering. The soak time of the bushing in the liquid nitrogen shall be sufficient to allow the bushing to reach the same temperature as the coolant.

d. The bushing shall be installed into the housing immediately upon removal from the coolant with an absolute minimum of lost time. Trial runs shall be accomplished as necessary to minimize installation time which should be in the order of about seven (7) seconds maximum.

e. It may occasionally be necessary to heat the housing into which the bushing is to be installed, in addition to sub-zero cooling of the bushing. Detail parts in process, which do not have paint or sealant or other organic material applied prior to heating, the parts shall be heated by the use of radiant heat techniques, such as thermal blankets, infrared lamps etc.; to the maximum temperature of 250 F. The temperature measuring devices shall be used to monitor heat and shall be located on areas of the part expected to reach maximum temperature. No scaling, oxidation, or corrosion shall be permitted.

f. Bushings without flanges shall be installed into housing bore which has received a light coat of sealant per MIL-S-81733. Install shrunken bushing and wipe off any excess sealant that may have extruded around the periphery of both ends of the bushings.

g. Bushings with flanges shall be installed in a similar manner as paragraph (F) except sealant shall also be applied to face or lug under flange. Sealant shall be applied in such a manner as to ensure complete coverage of inside face of bushing flange when bushing is installed. Wipe off any excess sealant amount periphery of bushing flange forming a bead. Wipe any excess sealant from other end of bushing flange forming a bead. Wipe any excess sealant from other end of bushing also.

h. For bushings with external grease grooves the inside of the lug will be coated with MIL-C-16173 prior to bushing installation and face of lug will be coated with MIL-S-81733 per paragraph g.

l. Finish per the following in lieu of note # 26.
a. Apply one coat epoxy waterborne primer per MIL-PRF-85582, Type I Class 2. Alternate one coat of epoxy polyamide primer per MIL-PRF-23377 Type I. Apply two topcoats polyurethane per MIL-PRF-85285, Type I, color number 17925 (white) per FED-STD-595, in lieu of MIL-C-83286, which has been cancelled.

m. Shot Peen per SAE AMS-S-13165 as an alternate to PS 14023. (Insure all requirements of drawing 68A412704 note #27 are complied with.

PREPARED BY	SYMBOL	DATE
TERRY L. JONES	LGMPM	19 Nov 01

n. Phosphate Coat per MIL-P-16232 as an alternate to PS 13205.

o. Ion Vapor Deposit Aluminum (IVD) per MIL-C-83488 as an alternate to PS 13143.

p. Anodize per MIL-A-8625 Type II, Class 1, as an alternate to PS 13201.

q. Grind per MIL-STD-866 as an alternate to PS 20710.

r. Bearing General specification Qualifications MIL-B-81934 has been cancelled use SAE AS 81934

s. QQ-C-530 condition "H" can be used as an alternate to PS1593.

5. The required forging will be procured from the qualified forging source using the original certified forging procedures and dies/tooling.

a. Prior to contract award the detail part bidder will provide certification, from the forging source, to the government that the certified dies and forging procedures are available and that the forging source has an agreement with the detail part bidder to provide forgings for their use in the event they are the successful bidder.

b. Prior to production, forging lot qualification will be accomplished as specified on the forging drawing and MIL-A-22771. The contractor will assure that this is or has been accomplished by the forging source and will submit certified documentation of accomplishment to the Government. Ultrasonic inspection on each forging per MIL-STD-2154.

FORGING SOURCE, CONTROL AND LOCATION OF DIES:

1. FORGING DRAWING:
   Drawing Number: 68A412704
   Part Number 68A412704-1004
   Die Number: 7782

2. CONTROL OF FORGING PROCESS: McDonnell Douglas

3. LOCATION OF FORGING DIES: Kropp Forging Company
   5301 West Roosevelt Road
   Cicero, Illionois
   (708) 652-6691 EXT. 324 (Chuck Meyers)

SOURCE QUALIFICATION REQUIREMENTS
(PL98-525, SECTION 2319)

STOCK NR (NSN)1620014451463 PART NUMBER (P/N)68A41d2704-1004
NOUN: Piston Assembly, Main Landing Gear AIRCRAFT:F-15E

SECTION C

QUALIFICATION REQUIREMENTS THAT MUST BE SATISFIED TO BECOME A QUALIFIED SOURCE:

1. Because of the need for uninterrupted item support to military aircraft systems while keeping with the requirements of PL 98-525, the current acquisition need not and generally will not be delayed to provide an offeror an opportunity to qualify. Normal acquisition practices at OO-ALC should preclude the denial of opportunity to any interested offeror.

2. The offeror must provide a pre-contract award qualification article, which meets the requirements of the engineering drawings, material specifications, and process specifications. However, successful completion of the qualification testing does not guarantee any contract award. If the offeror is deemed qualified and awarded the contract, a post-contract award first ariticle exhibit may be required to verify production capability.

3. The qualification article will be subjected to form, fit, and function verification as well as required testing to assure compliance with data list and other applicable procurement criteria. The qualification article shall demonstrate full compatibility and comparability with existing parts.

4. The required materials will be procured from a qualified source and shall meet the requirements of their respective specifications. The offeror will assure that the supplier has accomplished this and shall submit certified documentation of accomplishment of the above requirements to the purchaser along with the pre-contract award qualification article.

5. The required forgings shall be procured from the qualified forging source using the original certified forging procedures and dies. Forging material and lot qualifications shall be accomplished as required in the specified forging drawing, P/N 68A41d2704-1004 and specification SAE-AMS-7190. The offeror shall assure that this is or has been accomplished by the forging source and will submit certified documentation of accomplishment of the above requirements to the government along with the pre-contract award qualification article.

6. The qualification article once submitted will become subject to such testing as deemed necessary by the U.S. Government to prove that the article meets all dimensional, processing and functional requirements. Such testing may result in the destruction of the article. Following completion of necessary testing and evaluation, the article no matter what its condition shall be returned to the contractor or disposed of at his discretion and direction whether it was found acceptable or not.

7. Form verification: The U.S. Government's Quality Verification Center (QVC) will be used to insure compliance with the dimensional requirements of the article. Material and processing compliance will also be verified as required.

8. Fit/function verification: Existing components and government test stands and fixtures will be utilized to verify physical interface and functional performance of articles.

9. Testing for material and process compliance.

(a) Material analysis
(b) Heat treat
(c) Grinding
(d) Plating
(e) Finish
(f) Grain flow
(g) Other

SOURCE QUALIFICATION REQUIREMENTS
(PL98-525, SECTION 2319)

STOCK NR (NSN)1620014451463 PART NUMBER (P/N)68A41d2704-1004
NOUN: Piston Assembly, Main Landing Gear AIRCRAFT:F-15E

10. Remarks:

a. Organic verification capabilities exist at OO-ALC.

b. Testing requirements outside organic capabilities will be contracted out.

11. The estimated cost of government testing and evaluation is ~~$86,000~~ 3,000.00.

12. Maximum time for testing of the qualification article will not exceed 30 days from receipt at testing agency.

SECTION D

QUALIFICATION WAIVER REQUIREMENTS.

1. An offerer who has had previous experience in the manufacture and qualification of items, which can be correlated with this product, may apply to the design control authority at OO-ALC for a waiver of the above stated qualification requirements.

a. The qualification waiver criteria utilized by the design control authority to perform a qualification analysis are available upon request. The qualification waiver criteria may be used as a guide in preparing the offerer's written input to the design control authority.

b. The burden of proof for written inputs is on the offerer. The design control authority will not pursue authenticity verification of claims made by the offerer of product manufacturing experience with other Government or non-Government agencies. Unsubstantiated claims will not be considered in the waiver analysis process.

c. This waiver will be granted if and only if the design control authority (LILE) can establish the qualifications of the offerer through the evaluation of written inputs from the offerer or from previous knowledge of the offerer's capabilities or from previous experience with the offerer on similar item acquisitions. If there is any doubt about the offerer's capability, the offerer will be required to submit a pre-qualification article. There is no guarantee of qualification by similarity. LILE reserves the right to require a pre-qualification article of all offerers.

2. The current acquisition need not and will not be delayed in order to provide an offerer with an opportunity to meet the requirements for qualification waiver.

3. Maximum time for approval of qualification by similarity will not exceed 15 days.

REVISION:

ENGINEERING DATA LIST

* HISTORY *

DATE :	DATA TECH :	ORGN SYMBOL :	PR NR :	APPLICATION:	PAGE
07FEB03	SDA	LGMPM		F15	1 OF 1

CAGE:	MANUFACTURER NAME:	REFERENCE NR:	NOUN :	NSN :
76301	BOEING CO/MC DONNELL ACFT	68A412704-1003	PISTON,LANDING GEAR	1620014450092

CAGE	DRAWING NUMBER	REV	NR SHEETS	NR CARDS	FURN CODE	DIST CODE	NOUN	REQUIREMENTS
76301	MMS224 /		0000	0000	S		MATERIAL SPECIFICATION	OBTAIN DATA FROM WR-ALC (JEDMICS)
98747	OO-ALC/FORM 462 /		0003	0000	S		ENG.DATA RQMNTS.(ATTACH. "A")	
76301	PS 11005 /		0000	0000	S		BONDING OF ETCH TEFLON	OBTAIN DATA FROM WR-ALC (JEDMICS)
76301	PS 15063 /		0000	0000	S		STRESS RELIEF	OBTAI DATA FROM WR-ALC(JEDMICS)
76301	PS 15500 /		0000	0000	S		GENERAL HEAT TREATING	OBTAIN DATA FROM WR-ALC(JEDMICS)
76301	PS 15548 /		0000	0000	S		AGE HARDEN	OBTAIN DATA FROM WR-ALC(JEDMICS)
76301	PS 17165 /		0000	0000	S		ETCHING FOR BONDING SURFACE	OBTAIN DATA FROM WR-ALC(JEDMICS)
76301	PS 23041 /		0000	0000	S		MACHINE FINISH	OBTAIN DATA FROM WR-ALC(JEDMICS)
76301	68A410636 WITH P/L /	C	0000	0000	S		BUSHING,FLNGD.TRQ.ARM LUG M.L.G.	OBTAIN DATA FROM WR-ALC (JEDMICS)
76301	68A412704 WITH P/L /	F	0000	0000	S		PISTON ASSEMBLY-M.L.G.	OBTAIN DATA FROM WR-ALC (JEDMICS)
	/18EO							ECO A497011
	/19EO							ECO A197563
	/20EO							ECO A183099
76301	68A413711 WITH P/L /	A	0000	0000	S		PAD-BRAKE LINES	OBTAIN DATA FROM WR-ALC (JEDMICS)
76301	68B410067 WITH P/L /	B	0000	0000	S		HEAD, PISTON-MAIN LANDING GEAR	OBTAIN DATA FROM WR-ALC (JEDMICS)

STANDARD ENGINEERING TEXT

ALL GOVERNMENT/MILITARY SPECIFICATIONS AND STANDARDS WILL NOT BE FURNISHED.
TO OBTAIN THESE SPECS AND STDS WRITE TO:
DODSSP
BUILDING 4/SECTION D
700 ROBINS AVE.
PHILADELPHIA PA. 19111-5098
TELEPHONE: (215) 697-2179
FAX: (215) 697-1462 TO VIEW OR ORDER: HTTP://WWW.DODSSP.DAPS.MIL

ENGINEERING DATA LIST REMARKS

FURNISHED METHOD CODE LEGEND:

C - CLASSIFIED DOCUMENT.
S - FURNISHED WITH SOLICITATION.
M - STABLE BASE DRAWING REQUIRED; FURNISHED WITH CONTRACT AWARD.
X - DATA SUPPLIED (NOT IN EDCARS).
R - FURNISHED BY PCD UPON REQUEST.
P - PARTIAL DOCUMENT FURNISHED.
V - VENDOR DRAWING; (NOT PROVIDED).
G - GOV'T DOCUMENT.
O - OTHERS, CONTRACTOR MUST ACQUIRE.
A - DATA NOT AVAILABLE.

REV:	ENGINEERING DATA REQUIREMENTS *(ATTACHMENT "A")*

NOTE: MILITARY SPECIFICATIONS I/STANDARDS WILL NOT BE FURNISHED IN THE BID SET.

1. THE FOLLOWING INSTRUCTIONS ARE FURNISHED FOR THE MANUFACTURE OF

PISTON ASSEMBLY-MAIN LANDING GEAR F-15

2. PART NUMBER	3. NATIONAL STOCK NUMBER
68A412704-1003	1620-01-445-0092

4. THE FOLLOWING SPECIFICATIONS/STANDARDS, ETC., WILL BE USED IN LIEU OF THE DATA INDICATED. THE SUPERSEDED DATA WILL NOT BE FURNISHED UNLESS SO INDICATED.

A. Mark and Identify per MIL-STD-130 as an alternate to PS16001. (REF. NOTE #19)

B. For large assemblies and components utilize the following statement in lieu of PS 16001) Serial number shall be vibropeened, or steel stamped, in 0.09" letters 0.004"-0.007" deep in the location indicated. If the drawing does not indicate a location, OO-ALC/LGHLEN will provide S/N location instructions. Serialization of item shall be accomplished as follows: The serialization will begin with the CAGE of the contractor named on the contract, followed by a dash and the 2 digit year of manufacture, followed by a dash and a sequentially unique 3 digit number. A contractor who receives numerous intermittent contracts will start serialization of item with the next number in sequence of the prior contract. If a contract produces more than 999 items, the serial number should begin using 4 digit serial numbers. The serial number should appear like this: S/N 98747-01-003."

C. Inspection requirements are as follows:

1. Perform fluorescent penetrant inspection per ASTM E1417, Type I, Method B or C, Level 3 or 4) in lieu of PS 21202 with the following acceptance/rejection criteria: NO DEFECTS ALLOWED. The intent of "NO DEFECTS ALLOWED" is that the inspection is conducted at the required sensitivity level and there will be no indications allowed. The inspector performing the inspection shall be certified to Level II with the inspection procedures developed by a Level III as specified in NAS 410.

2. Perform Magnetic ParticleInspection per ASTM E1444 in lieu of PS 21201. Use full wave direct current (FWDC), wet continuous method, fluorescent type with the following acceptance/rejection criteria: NO DEFECTS ALLOWED. The intent of NO DEFECTS ALLOWED is that the inspection is conducted at the required sensitivity level and there shall be no indications allowed. The inspector performing the inspection shall be certified to Level II with the inspection procedure developed by a Level III as specified in NAS-410.

D. Shot Peen per SAE AMS -S-13165 as an alternate to PS 14023. (Insure all requirements of Drawing 68A412704, Note #27 are complied with).

E. Heat Treat Beryl Copper per SAE AMS-H-7199 as an alternate to PS 15935. (DRAWING 68A410636, Note #13)

F. Heat Treat Steel per SAE AMS-H-6875 as an alternate to PS 15296 and PS 15351.

G. For parts Heat-Treated to 180 KSI and above, any surface that is ground/machined after heat treat, shall be inspected for abusive grinding/machining burns per MIL-STD-867.

H. Grind per MIL-STD-866 as an alternate to PS 20710.

I. Temper Etch per MIL-STD-867 as an alternate to PS 21205.

J. Bearing General Specification Qualifications MIL-B-81934 has been cancelled, use SAE AS 81934.

PREPARED BY	SYMBOL	DATE
DAVID H. ARGYLE	LGMPM	7 Mar 03

REV:	ENGINEERING DATA REQUIREMENTS CONTINUATION SHEET *(ATTACHMENT "A")*
PART NUMBER	NATIONAL STOCK NUMBER
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K. Install Bushings per the following, as an alternate to PS 17034:

1. The bushing installations shall be accomplished in such a manner as to avoid damage to the finish on the I.D. of the housing into which the bushing is installed, or the finish of the O.D. of the bushing. Forced installation of sub-zero installations, such as the use of a press or hammer is not permitted, and is not acceptable. A small non-metallic hammer may be used to tap the bushing into alignment with the housing bore, or to seat the bushing.

2. Prior to bushing installation, the parts and housing bore shall be cleaned with a cleaning solvent to remove all contamination.

3. Liquid nitrogen shall be used for all sub-zero installations unless some other sub-zero coolant is specified, and approved by OO-ALC/LGHLEN Engineering. The soak time of the bushing in the liquid nitrogen shall be sufficient to allow the bushing to reach the same temperature as the coolant.

4. The bushing shall be installed into the housing immediately upon removal from the coolant with an absolute minimum of lost time. Trial runs shall be accomplished as necessary to minimize installation time which should be in the order of about seven (7) seconds maximum.

5. It may occasionally be necessary to heat the housing into which the bushing is to be installed, in addition to sub-zero cooling of the bushing. Detail parts in process, which do not have paint or sealant or other organic material applied prior to heating, shall be heated by the use of radiant heat techniques, such as thermal blankets, infrared lamps etc.; to the maximum temperature of 250 F.Temperature measuring devices shall be used to monitor heat and shall be located on areas of the part expected to reach maximum temperature. No scaling oxidation, or corrosion shall be permitted.

6. Bushings without flanges shall be installed into housing bore which has received a light coat of sealant per MIL-PRF-81733. Install shrunken bushing and wipe off any excess sealant that may have extruded aroumd the periphery of both ends of the bushings.

7. Bushings with flanges shall be installed in a similar manner as paragraph F. Except sealant shall also be applied to face of lug under flange. Sealant shall be applied in such a manner as to ensure complete coverage of inside face of bushing flange when bushing is installed. Wipe off any excess sealant around periphery of bushing flange forming a bead. Wipe any excess sealant from the other end of the bushing.

8. For bushings with external grease grooves the inside of the lug will be coated with MIL-C-16173 prior to bushing installation, and face of lug will be coated with MIL-PRF-81733 per paragraph G.

PREPARED BY	SYMBOL	DATE
DAVID H. ARGYLE	LGMPM	7 Mar 03

REV:	ENGINEERING DATA REQUIREMENTS CONTINUATION SHEET *(ATTACHMENT "A")*
PART NUMBER	NATIONAL STOCK NUMBER
68A412704-1003	1620-01-445-0092

L. Use Material SAE AMS 6419 in lieu of AMS 6419. (DRAWING 68A412704)

M. Use Material SAE AMS-225/9 in lieu of QQ-A-225/9. (DRAWING 68B410067)

N. Use Material ASTM B196, ASTM B197, and B194 in lieu of QQ-C-530, Condition "H". (DRAWING 68A410636)

O. Threads per MIL-S-8879. (SAFETY CRITICAL)

P. Cadmium Plate per MIL-STD-870 (Type II, Class 2) as an alternate to PS 13101 & PS 13144.

Q. Chrome Plate per MIL-STD-1501(Type II, Class 3) as an alternate to PS 13102.

R. Anodize per MIL-A-8625 (TYPE II, CLASS 1) as an alternate to PS 13201.

S. Phosphate Coat per MIL-DTL-1632 as an alternate to PS 13205.

T. Ion Vapor Deposit Aluminum (IVD) per MIL-DTL-83488 as an alternate to PS 13143.

U. Finish Specification 68A900000 and 40M114 are not required and will not be furnished. Finish per the following as an alternate to Drawing Note #26 and PS 13646:

1. Apply one coat Epoxy Waterborne primer per MIL-PRF-85582, Type I, Class 2. Alternate primer, one coat Epoxy-Polamide per MIL-PRF-23377, Type I.

2. Apply two topcoats of Polyurethane per MIL-PRF-85285, Type I, color #17925 (White) per FED-STD-595.

V. After contract award the successful bidder shall provide a copy of the processing documentation (routing documents and process specifications) to LILE for final review before production begins.

W. OO-ALC/LGHLEN system engineering retains all rights to review and accept MRB'S prior to shipment of discrepant items, All deviations, minor and major, from the engineering drawing package will be submitted for MRB disposition.

X. Prior to contract award, the contractor will certify to the government in writing, full compliance with manuals, specifications, and standards called out and required for the manufacture of this contracted landing gear component/assembly. Contractor is responsible to completely search these manuals, specifications, and standards and fully understand the requirements necessary to manufacture landing gear components. Any questions can be forwarded to this office, OO-ALC/LGHLEN.

PREPARED BY	SYMBOL	DATE
DAVID H. ARGYLE	LGMPM	7 Mar 03

REV:	ENGINEERING DATA REQUIREMEN CONTINUATION SHEET *(ATTACHMENT "A")*

PART NUMBER	NATIONAL STOCK NUMBER
68A412704-1003	1620-01-445-0092

Y. The required forging shall be procured from the qualified forging source, using the original certified forging procedures and dies/tooling.

1. Prior to contract award, the detail part bidder shall provide certification, from the forging source, to the Government that the certified dies and procedures are available and that the forging source has an agreement with the detail parts bidder to provide forgings for their use in the event they are the successful bidder.

2. Prior to production, forging lot qualification shall be accomplished as specified on the forging drawing and SAE AMS-F-7190 (STEEL). The detailed part contractor shall assure that this has been accomplished by the forging source and shall submit certified documentation of accomplishment to the Government.

Z. FORGING SOURCE, CONTROL AND LOCATION OF DIES:

1. Forging Drawing: 68A412704-2005

2. Die Number: 7782

3. Control of Forging Process: McDonnel Douglas Corp.

4. Location of Forging Dies: Kropp Forging Company
5301 West Roosevelt Road
Cicero, Illinois 60650-1273
(708) 652-6691

AA. INSTRUCTIONS FOR QUALIFICATION OF NEW FORGING SOURCE.

Prior to contract award,the contractor will advise the government in writing of their intent to procure new forging dies and the proposed forging source. The contractor will not proceed to obtain new dies without the express consent of the government procuring agency. The government will have unlimited use of the dies developed under this contract. The contractor will inform the forging house in writing, at the same time the order for the dies is placed, that the government has unlimited use rights of the dies and forward a copy of this letter to the Contracting Officer.

PREPARED BY	SYMBOL	DATE
DAVID H. ARGYLE	LGMPM	7 Mar 03

SOURCE QUALIFICATION REQUIREMENTS
(PL98-525, SECTION 2319)

STOCK NR (NSN) **1620014450092** PART NUMBER (P/N) **68A412704-1003**
NOUN: **PISTON ASSEMBLY** AIRCRAFT:F-15

SECTION C

QUALIFICATION REQUIREMENTS THAT MUST BE SATISFIED TO BECOME A QUALIFIED SOURCE:

1. Because of the need for uninterrupted item support to military aircraft systems while keeping with the requirements of PL 98-525, the current acquisition need not and generally will not be delayed to provide an offeror an opportunity to qualify. Normal acquisition practices at OO-ALC should preclude the denial of opportunity to any interested offeror.

2. The offeror must provide a pre-contract award qualification article, which meets the requirements of the engineering drawings, material specifications, and process specifications. However, successful completion of the qualification testing does not guarantee any contract award. If the offeror is deemed qualified and awarded the contract, a post-contract award first ariticle exhibit may be required to verify production capability.

3. The qualification article will be subjected to form, fit, and function verification as well as required testing to assure compliance with data list and other applicable procurement criteria. The qualification article shall demonstrate full compatibility and comparability with existing parts.

4. The required materials will be procured from a qualified source and shall meet the requirements of their respective specifications. The offeror will assure that the supplier has accomplished this and shall submit certified documentation of accomplishment of the above requirements to the purchaser along with the pre-contract award qualification article.

5. The required forgings shall be procured from the qualified forging source using the original certified forging procedures and dies. Forging material and lot qualifications shall be accomplished as required in the specified forging drawing, P/N 68A412704-1003 and specification SAE-AMS-H-6875. The offeror shall assure that this is or has been accomplished by the forging source and will submit certified documentation of accomplishment of the above requirements to the government along with the pre-contract award qualification article.

6. The qualification article once submitted will become subject to such testing as deemed necessary by the U.S. Government to prove that the article meets all dimensional, processing and functional requirements. Such testing may result in the destruction of the article. Following completion of necessary testing and evaluation, the article no matter what its condition shall be returned to the contractor or disposed of at his discretion and direction whether it was found acceptable or not.

7. Form verification: The U.S. Government's Quality Verification Center (QVC) will be used to insure compliance with the dimensional requirements of the article. Material and processing compliance will also be verified as required.

8. Fit/function verification: Existing components and government test stands and fixtures will be utilized to verify physical interface and functional performance of articles.

9. Testing for material and process compliance.

(a) Material analysis
(b) Heat treat
(c) Grinding
(d) Plating
(e) Finish
(f) Grain flow
(g) Other

SOURCE QUALIFICATION REQUIREMENTS
(PL98-525, SECTION 2319)

STOCK NR (NSN) 1620014450092 PART NUMBER (P/N) 68A412704-1003
NOUN: PISTON ASSEMBLY AIRCRAFT:F-15

10. Remarks:

a. Organic verification capabilities exist at OO-ALC.

b. Testing requirements outside organic capabilities will be contracted out.

11. The estimated cost of government testing and evaluation is $3000.

12. Maximum time for testing of the qualification article will not exceed 30 days from receipt at testing agency.

SECTION D

QUALIFICATION WAIVER REQUIREMENTS.

1. An offerer who has had previous experience in the manufacture and qualification of items, which can be correlated with this product, may apply to the design control authority at OO-ALC for a waiver of the above stated qualification requirements.

a. The qualification waiver criteria utilized by the design control authority to perform a qualification analysis are available upon request. The qualification waiver criteria may be used as a guide in preparing the offerer's written input to the design control authority.

b. The burden of proof for written inputs is on the offerer. The design control authority will not pursue authenticity verification of claims made by the offerer of product manufacturing experience with other Government or non-Government agencies. Unsubstantiated claims will not be considered in the waiver analysis process.

c. This waiver will be granted if and only if the design control authority (LGHLEN) can establish the qualifications of the offerer through the evaluation of written inputs from the offerer or from previous knowledge of the offerer's capabilities or from previous experience with the offerer on similar item acquisitions. If there is any doubt about the offerer's capability, the offerer will be required to submit a pre-qualification article. There is no guarantee of qualification by similarity. LGHLEN reserves the right to require a pre-qualification article of all offerers.

2. The current acquisition need not and will not be delayed in order to provide an offerer with an opportunity to meet the requirements for qualification waiver.

3. Maximum time for approval of qualification by similarity will not exceed 15 days.

4. The required forgings shall be procured from the qualified forging source using the original certified forging procedures and dies. The offeror must demonstrate that the forging vendor controlling the forging dies and tooling will give the offeror unrestricted access.

REVISION: *01*

ENGINEERING DATA LIST

* HISTORY *

DATE :	DATA TECH :	ORGN SYMBOL :	PR NR :	APPLICATION:	PAGE
18JUN02	SCH	LGMPM		F-16	1 OF 1

CAGE:	MANUFACTURER NAME:	REFERENCE NR:	NOUN :	NSN :
13002	GOODRICH	2006601-109	HOUSING ASSEMBLY	1620011627396

CAGE	DRAWING NUMBER	REV	NR SHEETS	NR CARDS	FURN CODE	DIST CODE	NOUN	REQUIREMENTS
98747	00-ALC FORM 462 /		0003	0000	S		ENGR DATA RQMTS (ATTACH A)	
17576	2006404-203 /	H	0001	0000	S		BUSHING SLEEVE - LANDING GEAR	
17576	2006404-205 /	H	0001	0000	S		BUSHING SLEEVE - LANDING GEAR	
17576	2006404-207 /	J	0001	0000	S		BUSHING SLEEVE - LANDING GEAR	
17576	2006404-211 /	J	0001	0000	S		ECO	
17576	2006404-213 /	H	0001	0000	S		BUSHING SLEEVE - LANDING GEAR	
17576	2006404-307 /	A	0001	0000	S		BUSHING SLEEVE - LANDING GEAR	
17576	2006601 /	J	0001	0000	S		HOUSING ASSY - NLG SHOCK STRUT	
	/91C034							ECO
	/90C186							ECO
17576	2006701 /	E	0001	0000	S		HOUSING, SHK STRUT - NLG FORGING	

STANDARD ENGINEERING TEXT

ENGINEERING DATA LIST REMARKS

FURNISHED METHOD CODE LEGEND:

C - CLASSIFIED DOCUMENT.
S - FURNISHED WITH SOLICITATION.
M - STABLE BASE DRAWING REQUIRED; FURNISHED WITH CONTRACT AWARD.
X - DATA SUPPLIED (NOT IN EDCARS).
R - FURNISHED BY PCD UPON REQUEST.
P - PARTIAL DOCUMENT FURNISHED.
V - VENDOR DRAWING; (NOT PROVIDED).
G - GOV'T DOCUMENT.
O - OTHERS, CONTRACTOR MUST ACQUIRE.
A - DATA NOT AVAILABLE.

REV:	ENGINEERING DATA REQUIREMENTS *(ATTACHMENT "A")*

NOTE: MILITARY SPECIFICATIONS I/STANDARDS WILL NOT BE FURNISHED IN THE BID SET.

1. THE FOLLOWING INSTRUCTIONS ARE FURNISHED FOR THE MANUFACTURE OF

HOUSING ASSEMBLY - NOSE LANDING GEAR SHOCK STRUT

2. PART NUMBER	3. NATIONAL STOCK NUMBER
2006601-109	1620-01-162-7396

4. THE FOLLOWING SPECIFICATIONS/STANDARDS, ETC., WILL BE USED IN LIEU OF THE DATA INDICATED. THE SUPERSEDED DATA WILL NOT BE FURNISHED UNLESS SO INDICATED.

5. PER DRAWING 2006601 FLAGNOTE 1 USE MATERIAL SAE AMS-QQ-A-367 IN LIEU OF QQ-A-367.

6. SHOT PEEN PER SAE AMS-S-13165 IN LIEU OF MIL-S-13165.

7. PERFORM FLUORESCENT PENETRANT INSPECTION PER ASTM E 1417, TYPE I, METHOD B OR C, LEVEL 3 OR 4, IN LIEU OF MIL-I-6866, WITH THE FOLLOWING ACCEPTANCE/REJECTION CRITERIA: NO DEFECTS ALLOWED. THE INTENT OF NO DEFECTS ALLOWED IS THAT THE INSPECTION IS CONDUCTED AT THE REQUIRED SENSITIVITY LEVEL AND THERE SHALL BE NO INDICATIONS ALLOWED. THE INSPECTOR PERFORMING THE INSPECTION SHALL BE CERTIFIED TO LEVEL II WITH THE INSPECTION PROCEDURE DEVELOPED BY A LEVEL III AS SPECIFIED IN NAS-410.

8. SERIAL NUMBER SHALL BE VIBROPEENED (WITH VIBRATING PNEUMATIC PENCIL), IN 0.09" LETTERS 0.004" - 0.007" DEEP IN THE LOCATION INDICATED. IF THE DRAWING DOES NOT INDICATE A LOCATION, OO-ALC/LGHLEN SHALL PROVIDE S/N LOCATION INSTRUCTIONS. SERIALIZATION OF ITEM SHALL BE ACCOMPLISHED AS FOLLOWS: THE SERIALIZATION SHALL BEGIN WITH THE CAGE OF THE CONTRACTOR NAMED ON THE CONTRACT, FOLLOWED BY A DASH AND THE 2 DIGIT YEAR OF MANUFACTURE, FOLLOWED BY A DASH AND A SEQUENTIALLY UNIQUE 3 DIGIT NUMBER. A CONTRACTOR WHO RECEIVES NUMEROUS INTERMITTENT CONTRACTS SHALL START SERIALIZATION OF ITEM WITH THE NEXT NUMBER IN SEQUENCE OF THE PRIOR CONTRACT. IF A CONTRACT PRODUCES MORE THAN 999 ITEMS, THE SERIAL NUMBER SHOULD BEGIN USING 4 DIGIT SERIAL NUMBERS. THE SERIAL NUMBER SHOULD APPEAR LIKE THIS: "S/N 98747-02-001".

9. PAINT REQUIREMENTS AS FOLLOWS:

A. APPLY ONE COAT EPOXY WATERBORNE PRIMER PER MIL-PRF-85582, TYPE I, CLASS 2. ALTERNATE ONE COAT OF EPOXY POLYAMIDE PRIMER PER MIL-PRF-23377, TYPE I, IN LIEU OF MIL-P-23377.

B. APPLY TWO TOPCOATS POLYURETHANE PER MIL-PRF-85285, TYPE I, COLOR NUMBER 17925 (WHITE) PER FED-STD-595, IN LIEU OF MIL-C-83286, WHICH HAS BEEN CANCELLED.

10. CORROSION PROTECTION PER MIL-C-16173 GRADE 2 OR MIL-C-11796 CLASS 3 IN LIEU OF MM5752.

11. PER DRAWINGS 2006404-203, 2006404-205, 2006404-211, 2006404-213, AND 2006404-307 USE MATERIAL SAE AMS 4640 IN LIEU OF AMS 4640.

12. PER DRAWING 2006404-207 USE MATERIAL SAE AMS 5643 IN LIEU OF AMS 5643.

13. PER DRAWING 2006701, FLAGNOTE 5, USE MATERIAL SAE AMS-QQ-A-367 IN LIEU OF QQ-A-367.

14. ULTRASONIC INSPECT PER MIL-STD-2154 IN LIEU OF MIL-I-8950.

15. HEAT TREAT PER SAE AMS-H-6088 IN LIEU OF MIL-H-6088.

PREPARED BY	SYMBOL	DATE
CAROL HYER	LGMPM	7 Nov 02

REV:	ENGINEERING DATA REQUIREMEN. . CONTINUATION SHEET *(ATTACHMENT "A")*

PART NUMBER	NATIONAL STOCK NUMBER
2006601-109	1620-01-162-7396

16. THE FORGING SHALL BE PROCURED FROM THE ORIGINAL FORGING SOURCE, USING THE ORIGINAL CERTIFIED FORGING PROCEDURES AND DIES/TOOLING.

A. PRIOR TO CONTRACT AWARD, THE DETAILED PART BIDDER SHALL PROVIDE CERTIFICATION, FROM THE FORGING SOURCE, TO THE GOVERNMENT THAT THE CERTIFIED DIES AND PROCEDURES ARE AVAILABLE AND THE FORGING SOURCE HAS AN AGREEMENT WITH THE DETAIL PARTS BIDDER TO PROVIDE FORGINGS FOR THEIR USE IN THE EVENT THEY ARE THE SUCCESSFUL BIDDER.

B. PRIOR TO PRODUCTION, FORGING LOT QUALIFICATION SHALL BE ACCOMPLISHED AS SPECIFIED ON THE FORGING DRAWING AND SAE AMS-F-7190 FOR STEEL FORGINGS AND SAE AMS-A-22771 FOR ALUMINUM FORGINGS. THE DETAILED PART CONTRACTOR SHALL ASSURE THAT THIS HAS BEEN ACCOMPLISHED BY THE FORGING SOURCE AND SHALL SUBMIT CERTIFIED DOCUMENTATION OF ACCOMPLISHMENT TO THE GOVERNMENT.

17 FORGING SOURCE, CONTROL OF FORGING DIES AND THE LOCATION OF THE DIES.

A. FORGING DRAWING: 2006701-3

B. DIE NUMBER: 6194-3

C. CONTROL OF FORGING PROCESS: U.S.A.F.

D. LOCATION OF FORGING DIE:

INTERCONTINENTAL MFG
1200 N. GLENBROOK
GARLAND, TX 75046
POC: LISA PROCTOR
PHONE: (972) 494-7915
FAX: (972) 272-6197

18. OO-ALC/LGHLEN SYSTEM ENGINEERING RETAINS ALL RIGHTS TO REVIEW AND ACCEPT MATERIAL REVIEW BOARD'S (MRB'S) DISPOSITIONS PRIOR TO SHIPMENT OF DISCREPANT ITEM. ALL DEVIATIONS, MINOR AND MAJOR, FROM THE ENGINEERING DRAWING PACKAGE SHALL BE SUBMITTED FOR MRB DISPOSITION.

19. PRIOR TO CONTRACT AWARD, THE CONTRACTOR SHALL CERTIFY TO THE GOVERNMENT IN WRITING FULL COMPLIANCE WITH MANUALS, SPECIFICATIONS, AND STANDARDS CALLED OUT AND REQUIRED FOR THE MANUFACTURE OF THIS CONTRACTED LANDING GEAR COMPONENT/ASSEMBLY. CONTRACTOR IS RESPONSIBLE TO COMPLETELY SEARCH THESE MANUALS, SPECIFICATIONS, AND STANDARDS AND FULLY UNDERSTAND THE REQUIREMENTS NECESSARY TO MANUFACTURE LANDING GEAR COMPONENTS. ANY QUESTIONS CAN BE FORWARDED TO OO-ALC/LGHLEN.

20. AFTER CONTRACT AWARD, THE SUCCESSFUL BIDDER SHALL PROVIDE A COPY OF THE PROCESSING DOCUMENTATION (ROUTING DOCUMENTS AND PROCESS SPECIFICATIONS) TO LGHLEN FOR FINAL REVIEW BEFORE PRODUCTION BEGINS.

PREPARED BY	SYMBOL	DATE
CAROL HYER	LGMPM	7 Nov 02

REV:	ENGINEERING DATA REQUIREMENTS CONTINUATION SHEET *(ATTACHMENT "A")*

PART NUMBER	NATIONAL STOCK NUMBER
2006601-109	1620-01-162-7396

21. INSTALL BUSHINGS PER THE FOLLOWING IN LIEU OF MM5743:

A. THE BUSHING INSTALLATIONS SHALL BE ACCOMPLISHED IN SUCH A MANNER AS TO AVOID DAMAGE TO THE FINISH ON THE I.D. OF THE HOUSING INTO WHICH THE BUSHING IS INSTALLED, OR THE FINISH OF THE O.D. OF THE BUSHING. FORCED INSTALLATION OF SUB-ZERO INSTALLATIONS, SUCH AS THE USE OF A PRESS OR HAMMER IS NOT PERMITTED, AND IS NOT ACCEPTABLE. A SMALL NON-METALLIC HAMMER MAY BE USED TO TAP THE BUSHING INTO ALIGNMENT WITH THE HOUSING BORE, OR TO SEAT THE BUSHING.

B. PRIOR TO BUSHING INSTALLATION. THE PARTS AND HOUSING BORE SHALL BE CLEANED WITH A CLEANING SOLVENT TO REMOVE ALL CONTAMINATION.

C. LIQUID NITROGEN SHALL BE USED FOR ALL SUB-ZERO INSTALLATIONS UNLESS SOME OTHER SUB-ZERO COOLANT IS SPECIFIED, AND APPROVED BY OO-ALC/LGHLEN ENGINEERING. THE SOAK TIME OF THE BUSHING IN THE LIQUID NITROGEN SHALL BE SUFFICIENT TO ALLOW THE BUSHING TO REACH THE SAME TEMPERATURE AS THE COOLANT.

D. THE BUSHING SHALL BE INSTALLED INTO THE HOUSING IMMEDIATELY UPON REMOVAL FROM THE COOLANT WITH AN ABSOLUTE MINIMUM OF LOST TIME. TRIAL RUNS SHALL BE ACCOMPLISHED AS NECESSARY TO MINIMIZE INSTALLATION TIME WHICH SHOULD BE IN THE ORDER OF ABOUT SEVEN (7) SECONDS MAXIMUM.

E. IT MAY OCCASIONALLY BE NECESSARY TO HEAT THE HOUSING INTO WHICH THE BUSHING IS TO BE INSTALLED, IN ADDITION TO SUB-ZERO COOLING OF THE BUSHING. DETAIL PARTS IN PROCESS WILL NOT HAVE PAINT OR SEALANT OR OTHER ORGANIC MATERIAL APPLIED PRIOR TO HEATING, THE PARTS SHALL BE HEATED BY THE USE OF RADIANT HEAT TECHNIQUES, SUCH AS THERMAL BLANKETS, INFRARED LAMPS ETC.; TO THE MAXIMUM TEMPERATURE OF 250 F. TEMPERATURE MEASURING DEVICES SHALL BE USED TO MONITOR HEAT AND SHALL BE LOCATED ON AREAS OF THE PART EXPECTED TO REACH MAXIMUM TEMPERATURE. NO SCALING, OXIDATION, OR CORROSION SHALL BE PERMITTED.

F. BUSHINGS WITHOUT FLANGES SHALL BE INSTALLED INTO HOUSING BORE WHICH HAS RECEIVED A LIGHT COAT OF SEALANT PER MIL-PRF-81733. INSTALL SHRUNKEN BUSHING AND WIPE OFF ANY EXCESS SEALANT THAT MAY HAVE EXTRUDED AROUND THE PERIPHERY OF BOTH ENDS OF THE BUSHINGS.

G. BUSHINGS WITH FLANGES SHALL BE INSTALLED IN A SIMILAR MANNER AS PARAGRAPH (F) EXCEPT SEALANT SHALL ALSO BE APPLIED TO FACE OF LUG UNDER FLANGE. SEALANT SHALL BE APPLIED IN SUCH A MANNER AS TO ENSURE COMPLETE COVERAGE OF INSIDE FACE OF BUSHING FLANGE WHEN BUSHING IS INSTALLED. WIPE OFF ANY EXCESS SEALANT AROUND PERIPHERY OF BUSHING FLANGE. WIPE ANY EXCESS SEALANT FROM OTHER END OF BUSHING ALSO.

H. FOR BUSHINGS WITH EXTERNAL GREASE GROOVES THE INSIDE OF THE LUG WILL BE COATED WITH MIL-C-16173 PRIOR TO BUSHING INSTALLATION AND FACE OF LUG WILL BE COATED WITH MIL-PRF-81733 PER PARAGRAPH G, IF BUSHING IS FLANGED.

22. APPLY A THIN UNIFORM COATING OF PRIMER PER MIL-PRF-85582 TO ALL BUSHING BORES AND ALLOW TO FULLY CURE, PRIOR TO INSTALLATION OF BUSHING. (PRIMER SHALL NOT OBSTRUCT GREASE PASSAGES).

PREPARED BY	SYMBOL	DATE
CAROL HYER	LGMPM	7 Nov 02

SOURCE QUALIFICATION REQUIREMENTS
(PL98-525, SECTION 2319)

STOCK NR (NSN)1620-01-162-7396 PART NUMBER (P/N)2006601-109
NOUN: Housing Assembly - Nose Landing Gear Shock Strut AIRCRAFT:F-16

SECTION C

QUALIFICATION REQUIREMENTS THAT MUST BE SATISFIED TO BECOME A QUALIFIED SOURCE:

1. Because of the need for uninterrupted item support to military aircraft systems while keeping with the requirements of PL 98-525, the current acquisition need not and generally will not be delayed to provide an offeror an opportunity to qualify. Normal acquisition practices at OO-ALC should preclude the denial of opportunity to any interested offeror.

2. The offeror must provide a pre-contract award qualification article, which meets the requirements of the engineering drawings, material specifications, and process specifications. However, successful completion of the qualification testing does not guarantee any contract award. If the offeror is deemed qualified and awarded the contract, a post-contract award first ariticle exhibit may be required to verify production capability.

3. The qualification article will be subjected to form, fit, and function verification as well as required testing to assure compliance with data list and other applicable procurement criteria. The qualification article shall demonstrate full compatibility and comparability with existing parts.

4. The required materials will be procured from a qualified source and shall meet the requirements of their respective specifications. The offeror will assure that the supplier has accomplished this and shall submit certified documentation of accomplishment of the above requirements to the purchaser along with the pre-contract award qualification article.

5. The required forgings shall be procured from the qualified forging source using the original certified forging procedures and dies. Forging material and lot qualifications shall be accomplished as required in the specified forging drawing, P/N 2006601-109 and specification MIL-A-22771. The offeror shall assure that this is or has been accomplished by the forging source and will submit certified documentation of accomplishment of the above requirements to the government along with the pre-contract award qualification article.

6. The qualification article once submitted will become subject to such testing as deemed necessary by the U.S. Government to prove that the article meets all dimensional, processing and functional requirements. Such testing may result in the destruction of the article. Following completion of necessary testing and evaluation, the article no matter what its condition shall be returned to the contractor or disposed of at his discretion and direction whether it was found acceptable or not.

7. Form verification: The U.S. Government's Quality Verification Center (QVC) will be used to insure compliance with the dimensional requirements of the article. Material and processing compliance will also be verified as required.

8. Fit/function verification: Existing components and government test stands and fixtures will be utilized to verify physical interface and functional performance of articles.

9. Testing for material and process compliance.
   (a) Material analysis
   (b) Heat treat
   (c) Grinding
   (d) Plating
   (e) Finish
   (f) Grain flow
   (g) Other

SOURCE QUALIFICATION REQUIREMENTS
(PL98-525, SECTION 2319)

STOCK NR (NSN)1620-01-162-7396 PART NUMBER (P/N)2006601-109
NOUN: Housing Assembly - Nose Landing Gear Shock Strut AIRCRAFT:F-16

10. Remarks:

a. Organic verification capabilities exist at OO-ALC.

b. Testing requirements outside organic capabilities will be contracted out.

11. The estimated cost of government testing and evaluation is $3,500.

12. Maximum time for testing of the qualification article will not exceed 30 days from receipt at testing agency.

SECTION D

QUALIFICATION WAIVER REQUIREMENTS.

1. An offerer who has had previous experience in the manufacture and qualification of items, which can be correlated with this product, may apply to the design control authority at OO-ALC for a waiver of the above stated qualification requirements.

a. The qualification waiver criteria utilized by the design control authority to perform a qualification analysis are available upon request. The qualification waiver criteria may be used as a guide in preparing the offerer's written input to the design control authority.

b. The burden of proof for written inputs is on the offerer. The design control authority will not pursue authenticity verification of claims made by the offerer of product manufacturing experience with other Government or non-Government agencies. Unsubstantiated claims will not be considered in the waiver analysis process.

c. This waiver will be granted if and only if the design control authority (LILE) can establish the qualifications of the offerer through the evaluation of written inputs from the offerer or from previous knowledge of the offerer's capabilities or from previous experience with the offerer on similar item acquisitions. If there is any doubt about the offerer's capability, the offerer will be required to submit a pre-qualification article. There is no guarantee of qualification by similarity. LILE reserves the right to require a pre-qualification article of all offerers.

2. The current acquisition need not and will not be delayed in order to provide an offerer with an opportunity to meet the requirements for qualification waiver.

3. Maximum time for approval of qualification by similarity will not exceed 15 days.

REVISION: *01*

ENGINEERING DATA LIST

* HISTORY *

DATE :	DATA TECH :	ORGN SYMBOL :	PR NR :	APPLICATION:	PAGE
12MAR03	SCH	LGMPM		F-16	1 OF 1

CAGE:	MANUFACTURER NAME:	REFERENCE NR:	NOUN :	NSN :
13002	GOODRICH	2007602-103	PISTON, LANDING GEAR	1620012524042

CAGE	DRAWING NUMBER	REV	NR SHEETS	NR CARDS	FURN CODE	DIST CODE	NOUN	REQUIREMENTS
39661	MM4990 /		0000	0000	S		HEAT TREAT SPECIFICATION	
17576	MM5542 /		0000	0000	S		CADMIUM PLATING SPECIFICATION	
98747	OO-ALC FORM 462 /		0004	0000	S		ENGR DATA RQMTS (ATTACH A)	
17576	2006622 /	B	0001	0000	S		BUSHING, AXLE - NLG SHOCK STRUT	
17576	2007404-43 /	B	0001	0000	S		BUSHING, SLEEVE - LANDING GEAR	
	/98C0292							ECO
17576	2007404-77 /		0001	0000	S		BUSHING, SLEEVE - LANDING GEAR	
	/98C0297							ECO
17576	2007404-79 /		0001	0000	S		BUSHING, SLEEVE - LANDING GEAR	
	/98C0298							ECO
17576	2007404-83 /		0001	0000	S		BUSHING, SLEEVE - LANDING GEAR	
17576	2007404-97 /		0001	0000	S		BUSHING, SLEEVE LANDING GEAR	
17576	2007409 /	D	0001	0000	S		PIN, THREADED	
17576	2007602 /	E	0001	0000	S		PISTON ASSY - NLG SHOCK STRUT	
	/97C0385							ECO
17576	2007652 /	E	0001	0000	S		AXLE - NLG	
	/97C0384							ECO
17576	2007702 /		0001	0000	S		PISTON, SHOCK STRUT, NLG FORGING	

STANDARD ENGINEERING TEXT

ENGINEERING DATA LIST REMARKS

FURNISHED METHOD CODE LEGEND:

C - CLASSIFIED DOCUMENT.
S - FURNISHED WITH SOLICITATION.
M - STABLE BASE DRAWING REQUIRED; FURNISHED WITH CONTRACT AWARD.
X - DATA SUPPLIED (NOT IN EDCARS).
R - FURNISHED BY PCD UPON REQUEST.
P - PARTIAL DOCUMENT FURNISHED.
V - VENDOR DRAWING; (NOT PROVIDED).
G - GOV'T DOCUMENT.
O - OTHERS, CONTRACTOR MUST ACQUIRE.
A - DATA NOT AVAILABLE.

REV:	ENGINEERING DATA nEQUIREMENTS *(ATTACHMENT "A")*

NOTE: MILITARY SPECIFICATIONS I/STANDARDS WILL NOT BE FURNISHED IN THE BID SET.

1. THE FOLLOWING INSTRUCTIONS ARE FURNISHED FOR THE MANUFACTURE OF

PISTON ASSY - NLG SHOCK STRUT

2. PART NUMBER	3. NATIONAL STOCK NUMBER
2007602-103	1620-01-252-4042

4. THE FOLLOWING SPECIFICATIONS/STANDARDS, ETC., WILL BE USED IN LIEU OF THE DATA INDICATED. THE SUPERSEDED DATA WILL NOT BE FURNISHED UNLESS SO INDICATED.

5. PER DRAWING 2007602, FLAG NOTE 1, DRAWING 2007702, FLAG NOTE 5, AND DRAWING 2007652, FLAG NOTE 1, USE MATERIAL SAE AMS 6257 IN LIEU OF MIL-S-8844.

6. HEAT TREAT PER SAE AMS-H-6875 IN LIEU OF MIL-H-6875 AND MM4995.

7. ON PARTS HEAT TREATED OVER 180 KSI AND ABOVE, ANY SURFACE GROUND/MACHINED AFTER HEAT TREAT, SHALL BE INSPECTED FOR ABUSIVE GRINDING/MACHINING BURNS PER MIL-STD-867 IN LIEU OF MM5512. GRINDING SHALL BE PER MIL-STD-866 IN LIEU OF MM5759.

8. IDENTIFICATION AND MARKING PER MIL-STD-130 IN LIEU OF TM1040.

9. PERFORM MAGNETIC PARTICLE INSPECTION PER ASTM E 1444 IN LIEU OF MIL-I-6868. USE FULL WAVE DIRECT CURRENT (FWDC), WET CONTINUOUS METHOD, FLUORESCENT TYPE WITH THE FOLLOWING ACCEPTANCE/REJECTION CRITERIA: NO DEFECTS ALLOWED. THE INTENT OF NO DEFECTS ALLOWED IS THAT THE INSPECTION IS CONDUCTED AT THE REQUIRED SENSITIVITY LEVEL AND THERE SHALL BE NO INDICATIONS ALLOWED. THE INSPECTOR PERFORMING THE INSPECTION SHALL BE CERTIFIED TO LEVEL II WITH THE INSPECTION PROCEDURE DEVELOPED BY A LEVEL III AS SPECIFIED IN AIA/NAS NAS-410.

10. SHOT PEEN PER SAE AMS-S-13165 IN LIEU OF MIL-S-13165.

11. DIMENSIONS AND TOLERANCING PER ASME Y14.5 IN LIEU OF ANSI Y14.5.

12. SPECIFICATION MM4951 CADMIUM PLATING WILL NOT BE FURNISHED AS IT IS LIMITED (PROPRIETARY) DATA. AS AN ALTERNATE USE SPECIFICATION MM5542, CADMIUM PLATING. (PROVIDED)

13. SERIAL NUMBER SHALL BE VIBROPEENED (WITH VIBRATING PNEUMATIC PENCIL), IN 0.09" LETTERS 0.004" - 0.007" DEEP IN THE LOCATION INDICATED. IF THE DRAWING DOES NOT INDICATE A LOCATION, OO-ALC/LGHLEN SHALL PROVIDE S/N LOCATION INSTRUCTIONS. SERIALIZATION OF ITEM SHALL BE ACCOMPLISHED AS FOLLOWS: THE SERIALIZATION SHALL BEGIN WITH THE CAGE OF THE CONTRACTOR NAMED ON THE CONTRACT, FOLLOWED BY A DASH AND THE 2 DIGIT YEAR OF MANUFACTURE, FOLLOWED BY A DASH AND A SEQUENTIALLY UNIQUE 3 DIGIT NUMBER. A CONTRACTOR WHO RECEIVES NUMEROUS INTERMITTENT CONTRACTS SHALL START SERIALIZATION OF ITEM WITH THE NEXT NUMBER IN SEQUENCE OF THE PRIOR CONTRACT. IF A CONTRACT PRODUCES MORE THAN 999 ITEMS, THE SERIAL NUMBER SHOULD BEGIN USING 4 DIGIT SERIAL NUMBERS. THE SERIAL NUMBER SHOULD APPEAR LIKE THIS: "S/N 98747-03-001".

14. CORROSION PROTECTION PER MIL-C-16173, GRADE 1 OR MIL-C-11796, CLASS 1 OR 2 IN LIEU OF MM5752.

15. CHROME PLATE TO DRAWING REQUIREMENTS AND SAE AMS-QQ-C-320 IN LIEU OF QQ-C-320.

16. SURFACE TEXTURE PER ASME B46.1 IN LIEU OF ASA B46.1.

17. APPLY BEAD OF SEALANT PER MIL-PRF-81733 IN LIEU OF MIL-S-81733.

PREPARED BY	SYMBOL	DATE
CAROL HYER	LGMPM	24 Apr 03

REV:	ENGINEERING DATA REQUIREME , CONTINUATION SHEET *(ATTACHMENT "A")*
PART NUMBER	NATIONAL STOCK NUMBER
2007602-103	1620-01-252-4042

18. INSTALL BUSHINGS PER THE FOLLOWING IN LIEU OF MM5743:

A. THE BUSHING INSTALLATIONS SHALL BE ACCOMPLISHED IN SUCH A MANNER AS TO AVOID DAMAGE TO THE FINISH ON THE I.D. OF THE HOUSING INTO WHICH THE BUSHING IS INSTALLED, OR THE FINISH OF THE O.D. OF THE BUSHING. FORCED INSTALLATION OF SUB-ZERO INSTALLATIONS, SUCH AS THE USE OF A PRESS OR HAMMER IS NOT PERMITTED, AND IS NOT ACCEPTABLE. A SMALL NON-METALLIC HAMMER MAY BE USED TO TAP THE BUSHING INTO ALIGNMENT WITH THE HOUSING BORE, OR TO SEAT THE BUSHING.

B. PRIOR TO BUSHING INSTALLATION, THE PARTS AND HOUSING BORE SHALL BE CLEANED WITH A CLEANING SOLVENT TO REMOVE ALL CONTAMINATION.

C. LIQUID NITROGEN SHALL BE USED FOR ALL SUB-ZERO INSTALLATIONS UNLESS SOME OTHER SUB-ZERO COOLANT IS SPECIFIED, AND APPROVED BY OO-ALC/LGHLEN ENGINEERING. THE SOAK TIME OF THE BUSHING IN THE LIQUID NITROGEN SHALL BE SUFFICIENT TO ALLOW THE BUSHING TO REACH THE SAME TEMPERATURE AS THE COOLANT.

D. THE BUSHING SHALL BE INSTALLED INTO THE HOUSING IMMEDIATELY UPON REMOVAL FROM THE COOLANT WITH AN ABSOLUTE MINIMUM OF LOST TIME. TRIAL RUNS SHALL BE ACCOMPLISHED AS NECESSARY TO MINIMIZE INSTALLATION TIME WHICH SHOULD BE IN THE ORDER OF ABOUT SEVEN (7) SECONDS MAXIMUM.

E. IT MAY OCCASIONALLY BE NECESSARY TO HEAT THE HOUSING INTO WHICH THE BUSHING IS TO BE INSTALLED, IN ADDITION TO SUB-ZERO COOLING OF THE BUSHING. DETAIL PARTS IN PROCESS WILL NOT HAVE PAINT OR SEALANT OR OTHER ORGANIC MATERIAL APPLIED PRIOR TO HEATING, THE PARTS SHALL BE HEATED BY THE USE OF RADIANT HEAT TECHNIQUES, SUCH AS THERMAL BLANKETS, INFRARED LAMPS ETC.; TO THE MAXIMUM TEMPERATURE OF 250 F. TEMPERATURE MEASURING DEVICES SHALL BE USED TO MONITOR HEAT AND SHALL BE LOCATED ON AREAS OF THE PART EXPECTED TO REACH MAXIMUM TEMPERATURE. NO SCALING, OXIDATION, OR CORROSION SHALL BE PERMITTED.

F. BUSHINGS WITHOUT FLANGES SHALL BE INSTALLED INTO HOUSING BORE WHICH HAS RECEIVED A LIGHT COAT OF SEALANT PER MIL-PRF-81733. INSTALL SHRUNKEN BUSHING AND WIPE OFF ANY EXCESS SEALANT THAT MAY HAVE EXTRUDED AROUND THE PERIPHERY OF BOTH ENDS OF THE BUSHINGS.

G. BUSHINGS WITH FLANGES SHALL BE INSTALLED IN A SIMILAR MANNER AS PARAGRAPH (F) EXCEPT SEALANT SHALL ALSO BE APPLIED TO FACE OF LUG UNDER FLANGE. SEALANT SHALL BE APPLIED IN SUCH A MANNER AS TO ENSURE COMPLETE COVERAGE OF INSIDE FACE OF BUSHING FLANGE WHEN BUSHING IS INSTALLED. WIPE OFF ANY EXCESS SEALANT AROUND PERIPHERY OF BUSHING FLANGE. WIPE ANY EXCESS SEALANT FROM OTHER END OF BUSHING ALSO.

H. FOR BUSHINGS WITH EXTERNAL GREASE GROOVES THE INSIDE OF THE LUG WILL BE COATED WITH MIL-C-16173 PRIOR TO BUSHING INSTALLATION AND FACE OF LUG WILL BE COATED WITH MIL-PRF-81733 PER PARAGRAPH G, IF BUSHING IS FLANGED.

19. APPLY A THIN UNIFORM COATING OF PRIMER PER MIL-PRF-23377 OR MIL-PRF-85582 (AFTER CADMIUM PLATING) TO ALL BUSHING BORES AND ALLOW TO FULLY CURE PRIOR TO INSTALLATION OF BUSHING (PRIMER SHALL NOT OBSTRUCT GREASE PASSAGES).

PREPARED BY	SYMBOL	DATE
CAROL HYER	LGMPM	24 Apr 03

REV:	ENGINEERING DATA REQUIREME ONTINUATION SHEET *(ATTACHMEN "A")*

PART NUMBER	NATIONAL STOCK NUMBER
2007602-103	1620-01-252-4042

20. CLEANLINESS PER SAE AMS 2300 IN LIEU OF AMS 2300.

21. APPLY DRY FILM LUBRICANT PER MIL-L-23398 TYPE I, IN LIEU OF MM1920.

22. CADMIUM PLATE TO DRAWING REQUIREMENTS AND SAE AMS-QQ-P-416 IN LIEU OF QQ-P-416.

23. PER DRAWING 2007409, USE MATERIAL 4330V MODIFIED STEEL PER SAE AMS 6411 IN LIEU OF AMS 6411.

24. PAINT REQUIREMENTS AS FOLLOWS:

A. APPLY ONE COAT EPOXY WATERBORNE PRIMER PER MIL-PRF-85582, TYPE I, CLASS 2. ALTERNATE ONE COAT OF EPOXY POLYAMIDE PRIMER PER MIL-PRF-23377, TYPE I IN LIEU OF MIL-P-23377.

B. APPLY TWO TOPCOATS POLYURETHANE PER MIL-PRF-85285, TYPE I, COLOR NUMBER 17925 (WHITE) PER FED-STD-595 IN LIEU OF MIL-C-83286.

25. PERFORM FLUORESCENT PENETRANT INSPECTION PER ASTM E1417, TYPE I, METHOD B OR C, LEVEL 3 OR 4, IN LIEU OF MIL-I-6866, WITH THE FOLLOWING ACCEPTANCE/REJECTION CRITERIA: NO DEFECTS ALLOWED. THE INTENT OF NO DEFECTS ALLOWED IS THAT THE INSPECTION IS CONDUCTED AT THE REQUIRED SENSITIVITY LEVEL AND THERE SHALL BE NO INDICATIONS ALLOWED. THE INSPECTOR PERFORMING THE INSPECTION SHALL BE CERTIFIED TO LEVEL II WITH THE INSPECTION PROCEDURE DEVELOPED BY A LEVEL III AS SPECIFIED IN AIA/NAS NAS-410.

26. PER DRAWINGS 2007404-83 AND 2007404-97 USE MATERIAL 7075-T73 AL ALLOY BAR PER SAE AMS-QQ-A-225/9 IN LIEU OF QQ-A-225/9, OR SAE AMS-QQ-A-200/11 IN LIEU OF QQ-A-200/11.

27. PER DRAWING 2006622, FLAG NOTE 12, USE MATERIAL SAE AMS-S-5000 IN LIEU OF MIL-S-5000 OR AMS 6414, AMS 6257 IN LIEU OF MIL-S-8844.

28. THREADS TO BE SAFETY CRITICAL.

29. OO-ALC/LGHLEN SYSTEM ENGINEERING RETAINS ALL RIGHTS TO REVIEW AND ACCEPT MATERIAL REVIEW BOARD (MRB'S) DISPOSITIONS PRIOR TO SHIPMENT OF DISCREPANT ITEM. ALL DEVIATIONS, MINOR AND MAJOR, FROM THE ENGINEERING DRAWING PACKAGE SHALL BE SUBMITTED FOR MRB DISPOSITION.

30. PRIOR TO CONTRACT AWARD, THE CONTRACTOR SHALL CERTIFY TO THE GOVERNMENT IN WRITING FULL COMPLIANCE WITH MANUALS, SPECIFICATIONS, AND STANDARDS CALLED OUT AND REQUIRED FOR THE MANUFACTURE OF THIS CONTRACTED LANDING GEAR COMPONENT/ASSEMBLY. CONTRACTOR IS RESPONSIBLE TO COMPLETELY SEARCH THESE MANUALS, SPECIFICATIONS, AND STANDARDS AND FULLY UNDERSTAND THE REQUIREMENTS NECESSARY TO MANUFACTURE LANDING GEAR COMPONENTS. ANY QUESTIONS CAN BE FORWARDED TO OO-ALC/LGHLEN.

31. AFTER CONTRACT AWARD, THE SUCCESSFUL BIDDER SHALL PROVIDE A COPY OF THE PROCESSING DOCUMENTATION (ROUTING DOCUMENTS AND PROCESS SPECIFICATIONS) TO LGHLEN FOR FINAL REVIEW BEFORE PRODUCTION BEGINS.

PREPARED BY	SYMBOL	DATE
CAROL HYER	LGMPM	24 Apr 03

REV:	ENGINEERING DATA REQUIREME. CONTINUATION SHEET *(ATTACHMENT "A")*
PART NUMBER: 2007602-103	NATIONAL STOCK NUMBER: 1620-01-252-4042

32. THE REQUIRED FORGING WILL BE PROCURED FROM THE QUALIFIED FORGING SOURCE USING THE ORIGINAL CERTIFIED FORGING PROCEDURES AND DIES/TOOLING.

A. PRIOR TO CONTRACT AWARD, THE DETAILED PART BIDDER SHALL PROVIDE CERTIFICATION, FROM THE FORGING SOURCE, TO THE GOVERNMENT THAT THE CERTIFIED DIES AND PROCEDURES ARE AVAILABLE AND THE FORGING SOURCE HAS AN AGREEMENT WITH THE DETAIL PART BIDDER TO PROVIDE FORGINGS FOR THEIR USE IN THE EVENT THEY ARE THE SUCCESSFUL BIDDER.

B. PRIOR TO PRODUCTION, FORGING LOT QUALIFICATION SHALL BE ACCOMPLISHED AS SPECIFIED ON THE FORGING DRAWING AND SAE AMS-F-7190 FOR STEEL FORGINGS AND SAE AMS-A-22771 FOR ALUMINUM FORGINGS. THE DETAILED PART CONTRACTOR SHALL ASSURE THAT THIS HAS BEEN ACCOMPLISHED BY THE FORGING SOURCE AND SHALL SUBMIT CERTIFIED DOCUMENTATION OF ACCOMPLISHMENT TO THE GOVERNMENT.

33. FORGING SOURCE, CONTROL AND LOCATION OF DIES:

A. FORGING DRAWING: 2007702-1

B. DIE NUMBER: 10824

C. CONTROL OF FORGING PROCESS: GOODRICH

D. LOCATION OF FORGING DIES:

SIFCO IND., INC
SIFCO FORGE GROUP
970 EAST 64TH STREET
CLEVELAND, OH 44103-1620
PHONE: 216-432-6287
POC: MARILYN IRVINE
CAGE: 78226

PREPARED BY	SYMBOL	DATE
CAROL HYER	LGMPM	24 Apr 03

SOURCE QUALIFICATION REQUIREMENTS
(PL98-525, SECTION 2319)

STOCK NR (NSN)1620-01-252-4042
NOUN: Piston Assy - NLG Shock Strut

PART NUMBER (P/N)2007602-103
AIRCRAFT:F-16

SECTION C

QUALIFICATION REQUIREMENTS THAT MUST BE SATISFIED TO BECOME A QUALIFIED SOURCE:

1. Because of the need for uninterrupted item support to military aircraft systems while keeping with the requirements of PL 98-525, the current acquisition need not and generally will not be delayed to provide an offeror an opportunity to qualify. Normal acquisition practices at OO-ALC should preclude the denial of opportunity to any interested offeror.

2. The offeror must provide a pre-contract award qualification article, which meets the requirements of the engineering drawings, material specifications, and process specifications. However, successful completion of the qualification testing does not guarantee any contract award. If the offeror is deemed qualified and awarded the contract, a post-contract award first ariticle exhibit may be required to verify production capability.

3. The qualification article will be subjected to form, fit, and function verification as well as required testing to assure compliance with data list and other applicable procurement criteria. The qualification article shall demonstrate full compatibility and comparability with existing parts.

4. The required materials will be procured from a qualified source and shall meet the requirements of their respective specifications. The offeror will assure that the supplier has accomplished this and shall submit certified documentation of accomplishment of the above requirements to the purchaser along with the pre-contract award qualification article.

5. The required forgings shall be procured from the qualified forging source using the original certified forging procedures and dies. Forging material and lot qualifications shall be accomplished as required in the specified forging drawing, P/N 2007602-103 and specification MIL-F-7190. The offeror shall assure that this is or has been accomplished by the forging source and will submit certified documentation of accomplishment of the above requirements to the government along with the pre-contract award qualification article.

6. The qualification article once submitted will become subject to such testing as deemed necessary by the U.S. Government to prove that the article meets all dimensional, processing and functional requirements. Such testing may result in the destruction of the article. Following completion of necessary testing and evaluation, the article no matter what its condition shall be returned to the contractor or disposed of at his discretion and direction whether it was found acceptable or not.

7. Form verification: The U.S. Government's Quality Verification Center (QVC) will be used to insure compliance with the dimensional requirements of the article. Material and processing compliance will also be verified as required.

8. Fit/function verification: Existing components and government test stands and fixtures will be utilized to verify physical interface and functional performance of articles.

9. Testing for material and process compliance.

(a) Material analysis
(b) Heat treat
(c) Grinding
(d) Plating
(e) Finish
(f) Grain flow
(g) Other

SOURCE QUALIFICATION REQUIREMENTS
(PL98-525, SECTION 2319)

STOCK NR (NSN)1620-01-252-4042 PART NUMBER (P/N)2007602-103
NOUN: Piston Assy - NLG Shock Strut AIRCRAFT:F-16

10. Remarks:

a. Organic verification capabilities exist at OO-ALC.

b. Testing requirements outside organic capabilities will be contracted out.

11. The estimated cost of government testing and evaluation is $2000.00.

12. Maximum time for testing of the qualification article will not exceed 30 days from receipt at testing agency.

SECTION D

QUALIFICATION WAIVER REQUIREMENTS.

1. An offerer who has had previous experience in the manufacture and qualification of items, which can be correlated with this product, may apply to the design control authority at OO-ALC for a waiver of the above stated qualification requirements.

a. The qualification waiver criteria utilized by the design control authority to perform a qualification analysis are available upon request. The qualification waiver criteria may be used as a guide in preparing the offerer's written input to the design control authority.

b. The burden of proof for written inputs is on the offerer. The design control authority will not pursue authenticity verification of claims made by the offerer of product manufacturing experience with other Government or non-Government agencies. Unsubstantiated claims will not be considered in the waiver analysis process.

c. This waiver will be granted if and only if the design control authority (LGHLEN) can establish the qualifications of the offerer through the evaluation of written inputs from the offerer or from previous knowledge of the offerer's capabilities or from previous experience with the offerer on similar item acquisitions. If there is any doubt about the offerer's capability, the offerer will be required to submit a pre-qualification article. There is no guarantee of qualification by similarity. LGHLEN reserves the right to require a pre-qualification article of all offerers.

2. The current acquisition need not and will not be delayed in order to provide an offerer with an opportunity to meet the requirements for qualification waiver.

3. Maximum time for approval of qualification by similarity will not exceed 15 days.

REVISION: *03*

ENGINEERING DATA LIST

* HISTORY *

DATE :	DATA TECH :	ORGN SYMBOL :	PR NR :	APPLICATION:	PAGE
26FEB01	SJH	LGMPM		F-16	1 OF 1

CAGE:	MANUFACTURER NAME:	REFERENCE NR:	NOUN :	NSN :
13002	BF GOODRICH	2007601-103	HOUSING ASSEMBLY	1620012524041

CAGE	DRAWING NUMBER	REV	NR SHEETS	NR CARDS	FURN CODE	DIST CODE	NOUN	REQUIREMENTS
17576	MM5542 /	BC	0000	0000	S		CADMIUM/TITANIUM ALLOY PLATING	
98747	OO-ALC/LGMPM /		0000	0000	S		ENGR DATA RQMTS (ATTACHMENT A)	*
17576	2007404-61 /	B	0000	0000	S		BUSHING SLEEVE	
17576	2007404-63 /	A	0000	0000	S		BUSHING SLEEVE	
17576	2007404-69 /	A	0000	0000	S		BUSHING SLEEVE	
17576	2007404-71 /	A	0000	0000	S		BUSHING SLEEVE	
17576	2007404-95 /	A	0000	0000	S		BUSHING SLEEVE	
17576	2007601 /	E	0000	0000	S		HOUSING ASSEMBLY - NLG	
17576	2007701 /	B	0000	0000	S		HOUSING,FORGING OF	

STANDARD ENGINEERING TEXT

ENGINEERING DATA LIST REMARKS

FURNISHED METHOD CODE LEGEND:

C - CLASSIFIED DOCUMENT.
S - FURNISHED WITH SOLICITATION.
M - STABLE BASE DRAWING REQUIRED; FURNISHED WITH CONTRACT AWARD.
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R - FURNISHED BY PCD UPON REQUEST.
P - PARTIAL DOCUMENT FURNISHED.
V - VENDOR DRAWING; (NOT PROVIDED).
G - GOV'T DOCUMENT.
O - OTHERS, CONTRACTOR MUST ACQUIRE.
A - DATA NOT AVAILABLE.

REV:	ENGINEERING DATA REQUIREMENTS *(ATTACHMENT "A")*

NOTE: MILITARY SPECIFICATIONS I/STANDARDS WILL NOT BE FURNISHED IN THE BID SET.

1. THE FOLLOWING INSTRUCTIONS ARE FURNISHED FOR THE MANUFACTURE OF

HOUSING ASSEMBLY - NLG SHOCK STRUT

2. PART NUMBER	3. NATIONAL STOCK NUMBER
2007601-103	1620-01-252-4041

4. THE FOLLOWING SPECIFICATIONS/STANDARDS, ETC., WILL BE USED IN LIEU OF THE DATA INDICATED. THE SUPERSEDED DATA WILL NOT BE FURNISHED UNLESS SO INDICATED.

5. PER DRAWING REQUIREMENTS, PERFORM MAGNETIC PARTICLE INSPECTION PER ASTM E 1444 IN LIEU OF MIL-I-6868. USE FULL WAVE DIRECT CURRENT (FWDC), WET CONTINUOUS METHOD, FLUORESCENT TYPE WITH THE FOLLOWING ACCEPTANCE/REJECTION CRITERIA: **NO DEFECTS ALLOWED**. THE INTENT OF **NO DEFECTS ALLOWED** IS THAT THE INSPECTION IS CONDUCTED AT THE REQUIRED SENSITIVITY LEVEL AND THERE SHALL BE NO INDICATIONS ALLOWED. THE INSPECTOR PERFORMING THE INSPECTION SHALL BE CERTIFIED TO LEVEL II WITH THE INSPECTION PROCEDURE DEVELOPED BY A LEVEL III AS SPECIFIED IN NAS-410.

6. PER DRAWING REQUIREMENTS, PERFORM FLUORESCENT PENETRANT INSPECTION PER ASTM E 1417, TYPE I, METHOD B OR C, LEVEL 3 OR 4 IN LIEU OF MIL-I-6866 WITH THE FOLLOWING ACCEPTANCE/REJECTION CRITERIA: **NO DEFECTS ALLOWED**. THE INTENT OF **NO DEFECTS ALLOWED** IS THAT THE INSPECTION IS CONDUCTED AT THE REQUIRED SENSITIVITY LEVEL AND THERE SHALL BE NO INDICATIONS ALLOWED. THE INSPECTOR PERFORMING THE INSPECTION SHALL BE CERTIFIED TO LEVEL II WITH THE INSPECTION PROCEDURE DEVELOPED BY A LEVEL III AS SPECIFIED IN NAS-410.

7. PER FLAG NOTE 1 DRAWING 2007601, MATERIAL PER SAE AMS 6257 IN LIEU OF MIL-S-8844. CLEANLINESS PER SAE AMS 2300 IN LIEU OF AMS 2300.

8. PER FLAG NOTE 2 DRAWING 2007601 AND DRAWING REQUIREMENTS, PROCESS AND HEAT TREAT PER SAE AMS-H-6875 IN LIEU OF MIL-H-6875.

9. PER FLAG NOTE 3 DRAWING 2007601, SHOT PEEN PER SAE AMS-S-13165 IN LIEU OF MIL-S-13165 WITH THE EXCEPTION OF FLAG NOTE 15.

10. PER FLAG NOTE 5 DRAWING 2007601 AND DRAWING REQUIREMENTS, SERIAL NUMBER SHALL BE VIBROPEENED (WITH VIBRATING PNEUMATIC PENCIL) IN 0.09" LETTERS 0.004" - 0.007" DEEP IN THE LOCATION INDICATED. IF THE DRAWING DOES NOT INDICATE A LOCATION, OO-ALC/LILE SHALL PROVIDE S/N LOCATION INSTRUCTIONS. SERIALIZATION OF ITEM SHALL BE ACCOMPLISHED AS FOLLOWS: THE SERIALIZATION SHALL BEGIN WITH THE CAGE (FSCM) OF THE CONTRACTOR NAMED ON THE CONTRACT, FOLLOWED BY A DASH AND THE 2 DIGIT YEAR OF MANUFACTURE, FOLLOWED BY A DASH AND A SEQUENTIALLY UNIQUE 3 DIGIT NUMBER. A CONTRACTOR WHO RECEIVES NUMEROUS INTERMITTENT *CONTRACTS SHALL START SERIALIZATION* OF ITEM WITH THE NEXT NUMBER IN SEQUENCE OF THE PRIOR CONTRACT. IF A CONTRACT PRODUCES MORE THAN 999 ITEMS, THE SERIAL NUMBER SHOULD APPEAR LIKE THIS: "S/N 98747-00-001".

11. PER DRAWING REQUIREMENTS, I.D. AND MARK PER MIL-STD-130 IN LIEU OF TM1040.

PREPARED BY	SYMBOL	DATE
JOAN HYATT	LGMPM	01 MAY 01

REV:	ENGINEERING DATA REQUIREMENTS CONTINUATION SHEET *(ATTACHMENT "A")*

PART NUMBER	NATIONAL STOCK NUMBER
2007601-103	1620-01-252-4041

12. PER FLAG NOTE 9 DRAWING 2007601, PAINT AS FOLLOWS WITH THE EXCEPTION OF FLAG NOTE 10:

A. APPLY ONE COAT EPOXY WATERBORNE PRIMER PER MIL-PRF-85582, TYPE I, CLASS 2. ALTERNATE ONE COAT OF EPOXY POLYAMIDE PRIMER PER MIL-PRF-23377, TYPE I.

B. APPLY TWO TOPCOATS POLYURETHANE PER MIL-PRF-85285, TYPE I, COLOR NUMBER 17925 (WHITE) PER FED-STD-595 IN LIEU OF MIL-C-83286, WHICH HAS BEEN CANCELLED.

13. PER DRAWING REQUIREMENTS, CORROSION PROTECTION PER MIL-C-16173 GR 1 OR MIL-C-11796 CL 1 OR 2 IN LIEU OF MM5752.

14. PER FLAG NOTE 16 DRAWING 2007601, CADMIUM PLATE PER MIL-STD-870 AND MM5542 (.0002 - .0003 THICK REF.) IN LIEU OF MM4951.

15. PER FLAG NOTE 21 DRAWING 2007601, CADMIUM PLATE PER MIL-STD-870 AND MM5542 (.0005 THICK REF.) IN LIEU OF MM4951.

16. PER FLAG NOTE 9 DRAWING 2007404-95, MATERIAL PER ASTM B196 AND ASTM B194 IN LIEU OF QQ-C-530.

17. PER FLAG NOTE 10 DRAWING 2007404-95, FLAG NOTE 10 DRAWING 2007404-71, FLAG NOTE 10 DRAWING 2007404-69, FLAG NOTE 10 DRAWING 2007404-63 AND FLAG NOTE 10 DRAWING 2007404-61, CADMIUM PLATE PER SAE AMS QQ-P-416 TYPE II CL 3 IN LIEU OF QQ-P-416 TYPE II CL 3.

18. PER FLAG NOTE 9 DRAWING 2007404-71, MATERIAL PER SAE AMS 4640 IN LIEU OF AMS 4640, SAE AMS 4880 IN LIEU OF AMS 4880.

19. PER FLAG NOTE 9 DRAWING 2007404-69 AND FLAG NOTE 9 DRAWING 2007404-61, MATERIAL PER SAE AMS 4640 AND SAE AMS 4880 IN LIEU OF AMS 4640 AND AMS 4880.

20. PER FLAG NOTE 9 DRAWING 2007404-63, MATERIAL PER SAE AMS 4640 IN LIEU OF AMS 4640.

21. PER FLAG NOTE 5 DRAWING 2007701, MATERIAL PER SAE AMS 6257 IN LIEU OF MIL-S-8844; CLEANLINESS PER SAE AMS 2300 IN LIEU OF AMS 2300.

22. PER FLAG NOTE 6 DRAWING 2007701, NORMALIZE AND TEMPER PER SAE AMS-H-6875 IN LIEU OF MIL-H-6875.

23. PER DRAWING REQUIREMENTS, FORGE AND INSPECT PER SAE AMS-F-7190 GRADE A IN LIEU OF MIL-G-7190 GRADE A.

24. APPLY A THIN UNIFORM COATING OF PRIMER PER MIL-PRF-23377 OR MIL-PRF-85582 (AFTER ANODIZING) TO ALL BUSHING BORES AND ALLOW TO FULLY CURE PRIOR TO INSTALLATION OF BUSHING (PRIMER SHALL NOT OBSTRUCT GREASE PASSAGES).

PREPARED BY	SYMBOL	DATE
JOAN HYATT	LGMPM	01 MAY 01

REV:	ENGINEERING DATA REQUIRE[illegible]S CONTINUATION SHEET *(ATTACHMENT "A")*

PART NUMBER	NATIONAL STOCK NUMBER
2007601-103	1620-01-252-4041

25. INSTALL BUSHINGS PER THE FOLLOWING IN LIEU OF MM5743:

A. THE BUSHING INSTALLATIONS SHALL BE ACCOMPLISHED IN SUCH A MANNER AS TO AVOID DAMAGE TO THE FINISH ON THE I.D. OF THE HOUSING INTO WHICH THE BUSHING IS INSTALLED, OR THE FINISH OF THE O.D. OF THE BUSHING. FORCED INSTALLATION OF SUB-ZERO INSTALLATIONS, SUCH AS THE USE OF A PRESS OR HAMMER IS NOT PERMITTED, AND IS NOT ACCEPTABLE. A SMALL NON-METALLIC HAMMER MAY BE USED TO TAP THE BUSHING INTO ALIGNMENT WITH THE HOUSING BORE, OR TO SEAT THE BUSHING.

B. PRIOR TO BUSHING INSTALLATION, THE PARTS AND HOUSING BORE SHALL BE CLEANED WITH A CLEANING SOLVENT TO REMOVE ALL CONTAMINATION.

C. LIQUID NITROGEN SHALL BE USED FOR ALL SUB-ZERO INSTALLATIONS UNLESS SOME OTHER SUB-ZERO COOLANT IS SPECIFIED AND APPROVED BY OO-ALC/LILE ENGINEERING. THE SOAK TIME OF THE BUSHING IN THE LIQUID NITROGEN SHALL BE SUFFICIENT TO ALLOW THE BUSHING TO REACH THE SAME TEMPERATURE AS THE COOLANT.

D. THE BUSHING SHALL BE INSTALLED INTO THE HOUSING IMMEDIATELY UPON REMOVAL FROM THE COOLANT WITH AN ABSOLUTE MINIMUM OF LOST TIME. TRIAL RUNS SHALL BE ACCOMPLISHED AS NECESSARY TO MINIMIZE INSTALLATION TIME WHICH SHOULD BE IN THE ORDER OF ABOUT SEVEN (7) SECONDS MAXIMUM.

E. IT MAY OCCASIONALLY BE NECESSARY TO HEAT THE HOUSING INTO WHICH THE BUSHING IS TO BE INSTALLED, IN ADDITION TO SUB-ZERO COOLING OF THE BUSHING. DETAIL PARTS IN PROCESS WILL NOT HAVE PAINT OR SEALANT OR OTHER ORGANIC MATERIAL APPLIED PRIOR TO HEATING, THE PARTS SHALL BE HEATED BY THE USE OF RADIANT HEAT TECHNIQUES, SUCH AS THERMAL BLANKETS, INFRARED LAMPS ETC.; TO THE MAXIMUM TEMPERATURE OF 250 F. TEMPERATURE MEASURING DEVICES SHALL BE USED TO MONITOR HEAT AND SHALL BE LOCATED ON AREAS OF THE PART EXPECTED TO REACH MAXIMUM TEMPERATURE. NO SCALING, OXIDATION OR CORROSION SHALL BE PERMITTED.

F. BUSHINGS WITHOUT FLANGES SHALL BE INSTALLED INTO HOUSING BORE WHICH HAS RECEIVED A LIGHT COAT OF SEALANT PER MIL-PRF-81733. INSTALL SHRUNKEN BUSHING AND WIPE OFF ANY EXCESS SEALANT THAT MAY HAVE EXTRUDED AROUND THE PERIPHERY OF BOTH ENDS OF THE BUSHING.

G. BUSHINGS WITH FLANGES SHALL BE INSTALLED IN A SIMILAR MANNER AS PARAGRAPH (F) EXCEPT SEALANT SHALL ALSO BE APPLIED TO FACE OF LUG UNDER FLANGE. SEALANT SHALL BE APPLIED IN SUCH A MANNER AS TO ENSURE COMPLETE COVERAGE OF INSIDE FACE OF BUSHING FLANGE WHEN BUSHING IS INSTALLED. WIPE OFF ANY EXCESS SEALANT AROUND PERIPHERY OF BUSHING FLANGE. WIPE OFF ANY EXCESS SEALANT FROM OTHER END OF BUSHING ALSO.

H. FOR BUSHINGS WITH EXTERNAL GREASE GROOVES, THE INSIDE OF THE LUG WILL BE COATED WITH MIL-C-16173 PRIOR TO BUSHING INSTALLATION AND FACE OF LUG WILL BE COATED WITH MIL-PRF-81733 PER PARAGRAPH G, IF BUSHING IS FLANGED.

PREPARED BY	SYMBOL	DATE
JOAN HYATT	LGMPM	01 MAY 01

REV:	ENGINEERING DATA REQUIRE . S CONTINUATION SHEET (ATTACHMENT "A")

PART NUMBER	NATIONAL STOCK NUMBER
2007601-103	1620-01-252-4041

26. THE FORGING SHALL BE PROCURED FROM THE ORIGINAL FORGING SOURCE, USING THE ORIGINAL CERTIFIED FORGING PROCEDURES AND DIES/TOOLING.

A. PRIOR TO CONTRACT AWARD, THE DETAILED PART BIDDER SHALL PROVIDE CERTIFICATION FROM THE FORGING SOURCE, TO THE GOVERNMENT THAT THE CERTIFIED DIES AND PROCEDURES ARE AVAILABLE AND THE FORGING SOURCE HAS AN AGREEMENT WITH THE DETAIL PARTS BIDDER TO PROVIDE FORGINGS FOR THEIR USE IN THE EVENT THEY ARE THE SUCCESSFUL BIDDER.

B. PRIOR TO PRODUCTION, FORGING LOT QUALIFICATION SHALL BE ACCOMPLISHED AS SPECIFIED ON THE FORGING DRAWING AND SAE AMS-F-7190 FOR STEEL FORGINGS AND SAE AMS-A-22771 FOR ALUMINUM FORGINGS. THE DETAILED PART CONTRACTOR SHALL ASSURE THAT THIS HAS BEEN ACCOMPLISHED BY THE FORGING SOURCE AND SHALL SUBMIT CERTIFIED DOCUMENTATION OF ACCOMPLISHMENT TO THE GOVERNMENT.

27. FORGING SOURCE, CONTROL AND LOCATION OF DIES:

A. FORGING DRAWING: 2007701-1
DIE#: 7739

B. CONTROL OF FORGING PROCESS: B.F. GOODRICH

C. LOCATION OF FORGING DIES:

KROPP FORGE COMPANY
5301 W. ROOSEVELT ROAD
CICERO, IL 60650-1273
(708) 652-6691
CAGE: 0BFN1

28. AFTER CONTRACT AWARD, THE SUCCESSFUL BIDDER SHALL PROVIDE A COPY OF THE PROCESSING DOCUMENTATION (ROUTING DOCUMENTS AND PROCESS SPECIFICATIONS) TO LILE FOR FINAL REVIEW BEFORE PRODUCTION BEGINS.

29. OO-ALC/LILE SYSTEM ENGINEERING RETAINS ALL RIGHTS TO REVIEW AND ACCEPT MATERIAL REVIEW BOARD (MRB'S) DISPOSITIONS PRIOR TO SHIPMENT OF DISCREPANT ITEM. ALL DEVIATIONS, MINOR AND MAJOR, FROM THE ENGINEERING DRAWING PACKAGE SHALL BE SUBMITTED FOR MRB DISPOSITION.

30. PRIOR TO CONTRACT AWARD, THE CONTRACTOR SHALL CERTIFY TO THE GOVERNMENT IN WRITING FULL COMPLIANCE WITH MANUALS, SPECIFICATIONS AND STANDARDS CALLED OUT AND REQUIRED FOR THE MANUFACTURE OF THIS CONTRACTED LANDING GEAR COMPONENT/ASSEMBLY. CONTRACTOR IS RESPONSIBLE TO COMPLETELY SEARCH THESE MANUALS, SPECIFICATIONS AND STANDARDS AND FULLY UNDERSTAND THE REQUIREMENTS NECESSARY TO MANUFACTURE LANDING GEAR COMPONENTS. ANY QUESTIONS CAN BE FORWARDED TO OO-ALC/LILE.

PREPARED BY	SYMBOL	DATE
JOAN HYATT	LGMPM	1 May 01

SOURCE QUALIFICATION REQUIREMENTS
(PL98-525, SECTION 2319)

STOCK NR (NSN)« 1620-01-252-4041» PART NUMBER (P/N)« 2007601-103»
NOUN: « HOUSING ASSEMBLY-NLG SHOCK STRUT» AIRCRAFT:« F-16»

SECTION C

QUALIFICATION REQUIREMENTS THAT MUST BE SATISFIED TO BECOME A QUALIFIED SOURCE:

1. Because of the need for uninterrupted item support to military aircraft systems while keeping with the requirements of PL 98-525, the current acquisition need not and generally will not be delayed to provide an offeror an opportunity to qualify. Normal acquisition practices at OO-ALC should preclude the denial of opportunity to any interested offeror.

2. The offeror must provide a pre-contract award qualification article, which meets the requirements of the engineering drawings, material specifications, and process specifications. However, successful completion of the qualification testing does not guarantee any contract award. If the offeror is deemed qualified and awarded the contract, a post-contract award first ariticle exhibit may be required to verify production capability.

3. The qualification article will be subjected to form, fit, and function verification as well as required testing to assure compliance with data list and other applicable procurement criteria. The qualification article shall demonstrate full compatibility and comparability with existing parts.

4. The required materials will be procured from a qualified source and shall meet the requirements of their respective specifications. The offeror will assure that the supplier has accomplished this and shall submit certified documentation of accomplishment of the above requirements to the purchaser along with the pre-contract award qualification article.

5. The required forgings shall be procured from the qualified forging source using the original certified forging procedures and dies. Forging material and lot qualifications shall be accomplished as required in the specified forging drawing, P/N «2007601-103» and specification SAE AMS-F-7190. The offeror shall assure that this is or has been accomplished by the forging source and will submit certified documentation of accomplishment of the above requirements to the government along with the pre-contract award qualification article.

6. The qualification article once submitted will become subject to such testing as deemed necessary by the U.S. Government to prove that the article meets all dimensional, processing and functional requirements. Such testing may result in the destruction of the article. Following completion of necessary testing and evaluation, the article no matter what its condition shall be returned to the contractor or disposed of at his discretion and direction whether it was found acceptable or not.

7. Form verification: The U.S. Government's Quality Verification Center (QVC) will be used to insure compliance with the dimensional requirements of the article. Material and processing compliance will also be verified as required.

8. Fit/function verification: Existing components and government test stands and fixtures will be utilized to verify physical interface and functional performance of articles.

9. Testing for material and process compliance.

(a) Material analysis
(b) Heat treat
(c) Grinding
(d) Plating
(e) Finish
(f) Grain flow
(g) Other

SOURCE QUALIFICATION REQUIREMENTS
(PL98-525, SECTION 2319)

STOCK NR (NSN)« 1620-01-252-4041» PART NUMBER (P/N)« 2007601-103»
NOUN: « HOUSING ASSEMBLY-NLG SHOCK STRUT» AIRCRAFT:« F-16»

10. Remarks:

a. Organic verification capabilities exist at OO-ALC.

b. Testing requirements outside organic capabilities will be contracted out.

11. The estimated cost of government testing and evaluation is $«5000.00».

12. Maximum time for testing of the qualification article will not exceed 30 days from receipt at testing agency.

SECTION D

QUALIFICATION WAIVER REQUIREMENTS.

1. An offerer who has had previous experience in the manufacture and qualification of items, which can be correlated with this product, may apply to the design control authority at OO-ALC for a waiver of the above stated qualification requirements.

a. The qualification waiver criteria utilized by the design control authority to perform a qualification analysis are available upon request. The qualification waiver criteria may be used as a guide in preparing the offerer's written input to the design control authority.

b. The burden of proof for written inputs is on the offerer. The design control authority will not pursue authenticity verification of claims made by the offerer of product manufacturing experience with other Government or non-Government agencies. Unsubstantiated claims will not be considered in the waiver analysis process.

c. This waiver will be granted if and only if the design control authority (LILE) can establish the qualifications of the offerer through the evaluation of written inputs from the offerer or from previous knowledge of the offerer's capabilities or from previous experience with the offerer on similar item acquisitions. If there is any doubt about the offerer's capability, the offerer will be required to submit a pre-qualification article. There is no guarantee of qualification by similarity. LILE reserves the right to require a pre-qualification article of all offerers.

2. The current acquisition need not and will not be delayed in order to provide an offerer with an opportunity to meet the requirements for qualification waiver.

3. Maximum time for approval of qualification by similarity will not exceed 15 days.

REVISION: *05*

ENGINEERING DATA LIST

* HISTORY *

DATE :	DATA TECH :	ORGN SYMBOL :	PR NR :	APPLICATION:	PAGE
07MAR03	SCH	LGMPM		F-16	1 OF 1

CAGE:	MANUFACTURER NAME:	REFERENCE NR:	NOUN :	NSN :
13002	GOODRICH	2007107-1	OUTER CYLINDER ASSY	1620012524035

CAGE	DRAWING NUMBER	REV	NR SHEETS	NR CARDS	FURN CODE	DIST CODE	NOUN	REQUIREMENTS
39661	MM4990 /		0000	0000	S		HEAT TREAT SPECIFICATION	
17576	MM5542 /		0000	0000	S		CADMIUM PLATING SPECIFICATION	
98747	OO-ALC FORM 462 /		0003	0000	S		ENGR DATA RQMTS (ATTACH A)	
17576	2007107 /	D	0001	0000	S		CYLINDER, OUTER - SHOCK STRT MLG	
17576	2007207 /		0001	0000	S		CYL, OUTR, SHK STR - MLG, FORG	

STANDARD ENGINEERING TEXT

ENGINEERING DATA LIST REMARKS

FURNISHED METHOD CODE LEGEND:

C - CLASSIFIED DOCUMENT.
S - FURNISHED WITH SOLICITATION.
M - STABLE BASE DRAWING REQUIRED; FURNISHED WITH CONTRACT AWARD.
X - DATA SUPPLIED (NOT IN EDCARS).
R - FURNISHED BY PCD UPON REQUEST.
P - PARTIAL DOCUMENT FURNISHED.
V - VENDOR DRAWING; (NOT PROVIDED)
G - GOV'T DOCUMENT.
O - OTHERS, CONTRACTOR MUST ACQUIRE.
A - DATA NOT AVAILABLE

REV:	ENGINEERING DATA REQUIREMENTS (ATTACHMENT "A")

NOTE: MILITARY SPECIFICATIONS I/STANDARDS WILL NOT BE FURNISHED IN THE BID SET.

1. THE FOLLOWING INSTRUCTIONS ARE FURNISHED FOR THE MANUFACTURE OF

CYLINDER, OUTER SHOCK STRUT, MLG

2. PART NUMBER	3. NATIONAL STOCK NUMBER
2007107-1	1620-01-252-4035

4. THE FOLLOWING SPECIFICATIONS/STANDARDS, ETC., WILL BE USED IN LIEU OF THE DATA INDICATED. THE SUPERSEDED DATA WILL NOT BE FURNISHED UNLESS SO INDICATED.

5. MATERIAL: 300M STEEL PER SAE AMS 6414, SAE AMS 6257 IN LIEU OF MIL-S-8844.

6. HEAT TREAT PER SAE AMS-H-6875 IN LIEU OF MIL-H-6875.

7. ON PARTS HEAT TREATED 180 KSI AND ABOVE, ANY SURFACES GROUND/MACHINED AFTER HEAT TREAT WILL BE INSPECTED FOR BURNS PER MIL-STD-867. GRINDING SHALL BE PER MIL-STD-866 IN LIEU OF MM5759.

8. PERFORM MAGNETIC PARTICLE INSPECTION PER ASTM E 1444 IN LIEU OF MIL-I-6868. USE FULL WAVE DIRECT CURRENT (FWDC), WET CONTINUOUS METHOD, FLUORESCENT TYPE WITH THE FOLLOWING ACCEPTANCE/REJECTION CRITERIA: NO DEFECTS ALLOWED. THE INTENT OF NO DEFECTS ALLOWED IS THAT THE INSPECTION IS CONDUCTED AT THE REQUIRED SENSITIVITY LEVEL AND THERE SHALL BE NO INDICATIONS ALLOWED. THE INSPECTOR PERFORMING THE INSPECTION SHALL BE CERTIFIED TO LEVEL II WITH THE INSPECTION PROCEDURE DEVELOPED BY A LEVEL III AS SPECIFIED IN AIA/NAS NAS-410.

9. SHOT PEEN PER SAE AMS-S-13165 IN LIEU OF MIL-S-13165.

10. CADMIUM PLATE SPECIFICATION MM4951 WILL NOT BE FURNISHED AS IT IS LIMITED (PROPRIETARY) DATA. AS AN ALTERNATE USE SPECIFICATION MM5542. (PROVIDED)

11. DIMENSIONING AND TOLERANCING PER ASME Y14.5 IN LIEU OF ANSI Y14.5.

12. SERIAL NUMBER SHALL BE VIBROPEENED (WITH VIBRATING PNEUMATIC PENCIL), IN 0.09" LETTERS 0.004" - 0.007" DEEP IN THE LOCATION INDICATED. IF THE DRAWING DOES NOT INDICATE A LOCATION, OO-ALC/LGHLEN SHALL PROVIDE S/N LOCATION INSTRUCTIONS. SERIALIZATION OF ITEM SHALL BE ACCOMPLISHED AS FOLLOWS: THE SERIALIZATION SHALL BEGIN WITH THE CAGE OF THE CONTRACTOR NAMED ON THE CONTRACT, FOLLOWED BY A DASH AND THE 2 DIGIT YEAR OF MANUFACTURE, FOLLOWED BY A DASH AND A SEQUENTIALLY UNIQUE 3 DIGIT NUMBER. A CONTRACTOR WHO RECEIVES NUMEROUS INTERMITTENT CONTRACTS SHALL START SERIALIZATION OF ITEM WITH THE NEXT NUMBER IN SEQUENCE OF THE PRIOR CONTRACT. IF A CONTRACT PRODUCES MORE THAN 999 ITEMS, THE SERIAL NUMBER SHOULD BEGIN USING 4 DIGIT SERIAL NUMBERS. THE SERIAL NUMBER SHOULD APPEAR LIKE THIS: "S/N 98747-03-001".

13. CORROSION PROTECTION PER MIL-C-16173 GRADE 1 OR MIL-C-11796 CLASS 1 OR 2 IN LIEU OF MM5752.

14. IDENTIFICATION AND MARKING PER MIL-STD-130 IN LIEU OF TM1040.

15. SURFACE TEXTURE PER ASME B46.1 IN LIEU OF ASA B46.1.

16. CHROME PLATE TO DRAWING REQUIREMENTS AND SAE AMS-QQ-C-320 IN LIEU OF QQ-C-320.

PREPARED BY	SYMBOL	DATE
CAROL HYER	LGMPM	25 Apr 03

REV:	ENGINEERING DATA REQUIREMENTS CONTINUATION SHEET *(ATTACHMENT "A")*

PART NUMBER	NATIONAL STOCK NUMBER
2007107-1	1620-01-252-4035

17. PAINT REQUIREMENTS AS FOLLOWS:

A. APPLY ONE COAT EPOXY WATERBORNE PRIMER PER MIL-PRF-85582, TYPE I, CLASS 2. ALTERNATE ONE COAT OF EPOXY POLYAMIDE PRIMER PER MIL-PRF-23377, TYPE I IN LIEU OF MIL-P-23377.

B. APPLY TWO TOPCOATS POLYURETHANE PER MIL-PRF-85285, TYPE I, COLOR NUMBER 17925 (WHITE) PER FED-STD-595 IN LIEU OF MIL-C-83286.

18. CLEANLINESS PER SAE AMS 2300 IN LIEU OF AMS 2300.

19. OO-ALC/LGHLEN SYSTEM ENGINEERING RETAINS ALL RIGHTS TO REVIEW AND ACCEPT MATERIAL REVIEW BOARD (MRB'S) DISPOSITIONS PRIOR TO SHIPMENT OF DISCREPANT ITEM. ALL DEVIATIONS, MINOR AND MAJOR, FROM THE ENGINEERING DRAWING PACKAGE SHALL BE SUBMITTED FOR MRB DISPOSITION.

20. PRIOR TO CONTRACT AWARD, THE CONTRACTOR SHALL CERTIFY TO THE GOVERNMENT IN WRITING FULL COMPLIANCE WITH MANUALS, SPECIFICATIONS, AND STANDARDS CALLED OUT AND REQUIRED FOR THE MANUFACTURE OF THIS CONTRACTED LANDING GEAR COMPONENT/ASSEMBLY. CONTRACTOR IS RESPONSIBLE TO COMPLETELY SEARCH THESE MANUALS, SPECIFICATIONS, AND STANDARDS AND FULLY UNDERSTAND THE REQUIREMENTS NECESSARY TO MANUFACTURE LANDING GEAR COMPONENTS. ANY QUESTIONS CAN BE FORWARDED TO OO-ALC/LGHLEN.

21. AFTER CONTRACT AWARD, THE SUCCESSFUL BIDDER SHALL PROVIDE A COPY OF THE PROCESSING DOCUMENTATION (ROUTING DOCUMENTS AND PROCESS SPECIFICATIONS) TO LGHLEN FOR FINAL REVIEW BEFORE PRODUCTION BEGINS.

22. THE REQUIRED FORGING WILL BE PROCURED FROM THE QUALIFIED FORGING SOURCE USING THE ORIGINAL CERTIFIED FORGING PROCEDURES AND DIES/TOOLING.

A. PRIOR TO CONTRACT AWARD, THE DETAILED PART BIDDER SHALL PROVIDE CERTIFICATION, FROM THE FORGING SOURCE, TO THE GOVERNMENT THAT THE CERTIFIED DIES AND PROCEDURES ARE AVAILABLE AND THE FORGING SOURCE HAS AN AGREEMENT WITH THE DETAIL PART BIDDER TO PROVIDE FORGINGS FOR THEIR USE IN THE EVENT THEY ARE THE SUCCESSFUL BIDDER.

B. PRIOR TO PRODUCTION, FORGING LOT QUALIFICATION SHALL BE ACCOMPLISHED AS SPECIFIED ON THE FORGING DRAWING AND SAE AMS-F-7190 FOR STEEL FORGINGS AND SAE AMS-A-22771 FOR ALUMINUM FORGINGS. THE DETAILED PART CONTRACTOR SHALL ASSURE THAT THIS HAS BEEN ACCOMPLISHED BY THE FORGING SOURCE AND SHALL SUBMIT CERTIFIED DOCUMENTATION OF ACCOMPLISHMENT TO THE GOVERNMENT.

PREPARED BY	SYMBOL	DATE
CAROL HYER	LGMPM	25 Apr 03

REV:	ENGINEERING DATA REQUIREMENTS CONTINUATION SHEET *(ATTACHMENT "A")*

PART NUMBER	NATIONAL STOCK NUMBER
2007107-1	1620-01-252-4035

23. FORGING SOURCE, CONTROL AND LOCATION OF DIES:

A. FORGING DRAWING: 2007207-1

B. CONTROL OF FORGING PROCESS: USAF

C. LOCATION OF FORGING DIES: .

SIFCO IND., INC
970 E. 64th STR.
CLEVELAND, OH 44103-1620
PHONE: 216-881-8600
POC: MARILYN IRVINE
DIE # 10822

KROPP FORGE
5301 W. ROOSEVELT ROAD
CICERO, IL 60804
PHONE: 708-652-6691
POC: CHUCK MEYER
DIE # 8105

W. PAT CROW, INC
200 LUXTON STR
P.O. BOX 1720
FT. WORTH, TX 76101-1720
PHONE: 817-536-2861 X280
POC: LAURA RIVERA
DIE # 4912

PREPARED BY	SYMBOL	DATE
CAROL HYER	LGMPM	25 Apr 03

7SOURCE QUALIFICATION STATEMENT
(PL 98-525, Section 2319)

SECTION A. ITEM IDENTIFICATION

1. STOCK NUMBER (NSN):1620-01-252-4035

2. PART NUMBER (P/N):2007107-1

3. NOUN: Cylinder, Outer Shock Strut, MLG

4. APPLICATION: F-16

SECTION B.

JUSTIFICATION FOR ESTABLISHING A QUALIFICATION REQUIREMENT AND REASON WHY QUALIFICATION REQUIREMENT MUST BE DEMONSTRATED PRIOR TO ANY CONTRACT AWARD

1. The manufacture, tolerances, material availability and interpretation of engineering data along with the special skills associated with forging, machining and processing of high strength steel forgings can result in product structural or durability degradations if not properly applied.

2. The bidder's ability to interpret the engineering drawings, specifications and the execution of the qualification requirements specified herein are necessary to verify the structural integrity as well as form, fit, and function of the item being procured.

3. Failure to procure these items from a fully qualified source can degrade the mission capability of the respective aircraft and/or cause the loss of aircraft and crew.

4. Completion of the specified pre-contract award qualification requirements will assure the government that the offeror is capable of producing the item in compliance with the applicable technical specification/data and within the schedule and economic constraints of the government's contracts. There are sufficient technical and schedule risks, which can only be minimized by a completion of the requirements prior to contract award.

SOURCE QUALIFICATION REQUIREMENTS
(PL98-525, SECTION 2319)

STOCK NR (NSN)1620-01-252-4035 PART NUMBER (P/N)2007107-1
NOUN: Cylinder, Outer Shock Strut, MLG AIRCRAFT:F-16

SECTION C

QUALIFICATION REQUIREMENTS THAT MUST BE SATISFIED TO BECOME A QUALIFIED SOURCE:

1. Because of the need for uninterrupted item support to military aircraft systems while keeping with the requirements of PL 98-525, the current acquisition need not and generally will not be delayed to provide an offeror an opportunity to qualify. Normal acquisition practices at OO-ALC should preclude the denial of opportunity to any interested offeror.

2. The offeror must provide a pre-contract award qualification article, which meets the requirements of the engineering drawings, material specifications, and process specifications. However, successful completion of the qualification testing does not guarantee any contract award. If the offeror is deemed qualified and awarded the contract, a post-contract award first ariticle exhibit may be required to verify production capability.

3. The qualification article will be subjected to form, fit, and function verification as well as required testing to assure compliance with data list and other applicable procurement criteria. The qualification article shall demonstrate full compatibility and comparability with existing parts.

4. The required materials will be procured from a qualified source and shall meet the requirements of their respective specifications. The offeror will assure that the supplier has accomplished this and shall submit certified documentation of accomplishment of the above requirements to the purchaser along with the pre-contract award qualification article.

5. The required forgings shall be procured from the qualified forging source using the original certified forging procedures and dies. Forging material and lot qualifications shall be accomplished as required in the specified forging drawing, P/N 2007107-1 and specification MIL-F-7190. The offeror shall assure that this is or has been accomplished by the forging source and will submit certified documentation of accomplishment of the above requirements to the government along with the pre-contract award qualification article.

6. The qualification article once submitted will become subject to such testing as deemed necessary by the U.S. Government to prove that the article meets all dimensional, processing and functional requirements. Such testing may result in the destruction of the article. Following completion of necessary testing and evaluation, the article no matter what its condition shall be returned to the contractor or disposed of at his discretion and direction whether it was found acceptable or not.

7. Form verification: The U.S. Government's Quality Verification Center (QVC) will be used to insure compliance with the dimensional requirements of the article. Material and processing compliance will also be verified as required.

8. Fit/function verification: Existing components and government test stands and fixtures will be utilized to verify physical interface and functional performance of articles.

9. Testing for material and process compliance.

(a) Material analysis
(b) Heat treat
(c) Grinding
(d) Plating
(e) Finish
(f) Grain flow
(g) Other

SOURCE QUALIFICATION REQUIREMENTS
(PL98-525, SECTION 2319)

STOCK NR (NSN)1620-01-252-4035 PART NUMBER (P/N)2007107-1
NOUN: Cylinder, Outer Shock Strut, MLG AIRCRAFT:F-16

10. Remarks:

a. Organic verification capabilities exist at OO-ALC.

b. Testing requirements outside organic capabilities will be contracted out.

11. The estimated cost of government testing and evaluation is $2000.00.

12. Maximum time for testing of the qualification article will not exceed 30 days from receipt at testing agency.

SECTION D

QUALIFICATION WAIVER REQUIREMENTS.

1. An offerer who has had previous experience in the manufacture and qualification of items, which can be correlated with this product, may apply to the design control authority at OO-ALC for a waiver of the above stated qualification requirements.

a. The qualification waiver criteria utilized by the design control authority to perform a qualification analysis are available upon request. The qualification waiver criteria may be used as a guide in preparing the offerer's written input to the design control authority.

b. The burden of proof for written inputs is on the offerer. The design control authority will not pursue authenticity verification of claims made by the offerer of product manufacturing experience with other Government or non-Government agencies. Unsubstantiated claims will not be considered in the waiver analysis process.

c. This waiver will be granted if and only if the design control authority (LGHLEN) can establish the qualifications of the offerer through the evaluation of written inputs from the offerer or from previous knowledge of the offerer's capabilities or from previous experience with the offerer on similar item acquisitions. If there is any doubt about the offerer's capability, the offerer will be required to submit a pre-qualification article. There is no guarantee of qualification by similarity. LGHLEN reserves the right to require a pre-qualification article of all offerers.

2. The current acquisition need not and will not be delayed in order to provide an offerer with an opportunity to meet the requirements for qualification waiver.

3. Maximum time for approval of qualification by similarity will not exceed 15 days.